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WASHINGTON, D.C.

SANITARY SURVEY

of

SKOTHEGAN MAINE

By

Arthur H. ^{Hand}McQuillan
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PREFACE

This report represents an attempt to offer an interpretation of some of the sanitary conditions of the Town of Skowhegan Maine, as they were found to exist in September 1923. To the best of my knowledge this is the first time such a report has been attempted, and it must be understood that this work does not deal with the situation in its entirety.

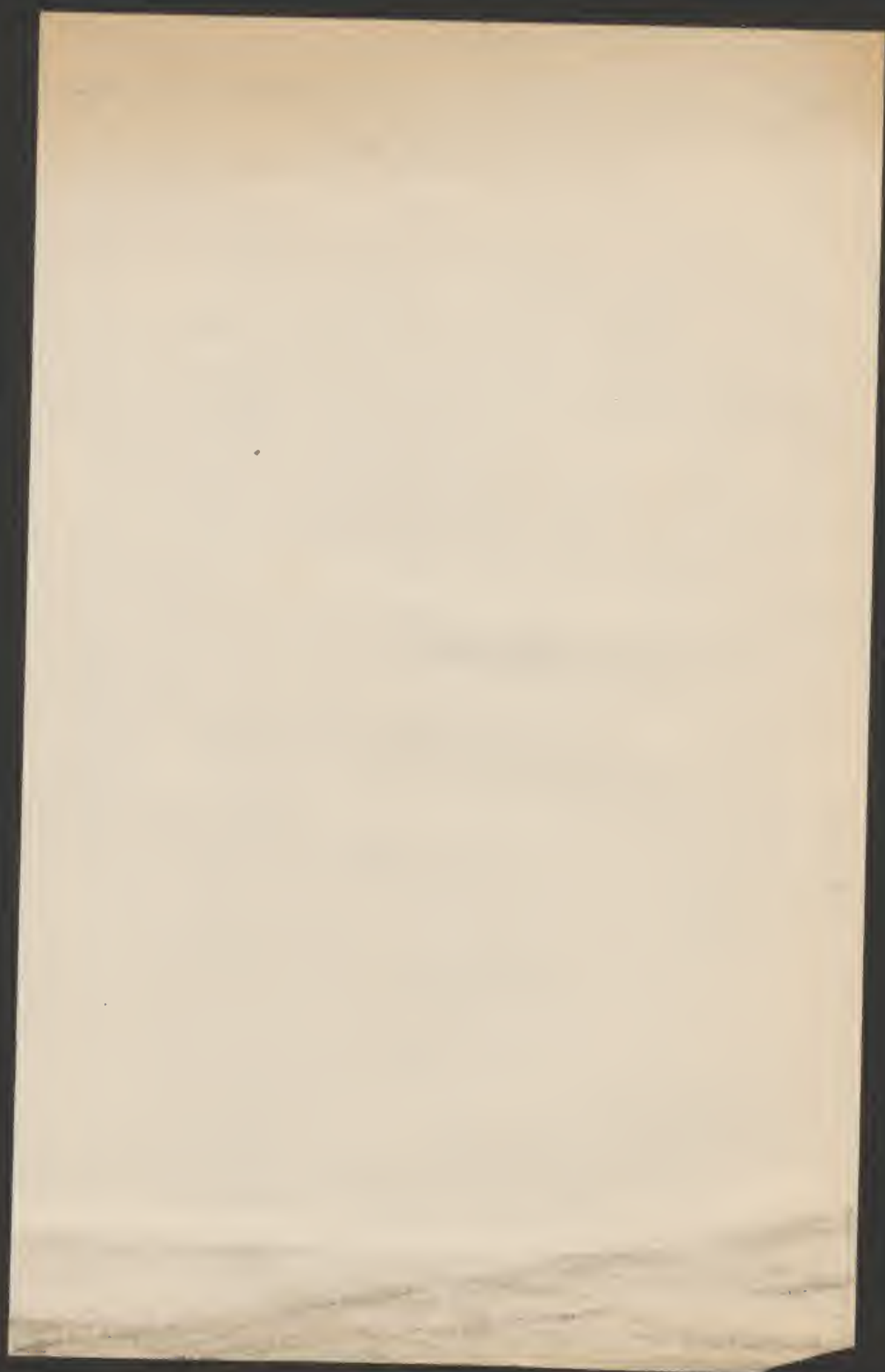
If I have too severely criticised some of the conditions found, it is because I believe that such criticisms would be, with their recommendations, an aid to the town as a whole.

I hope that this brief acknowledgement may serve as an apology to any under whose eyes this criticism may fall. I am very much indebted to the State Board of Health, and to the towns people, for their generous cooperation and advice saved me much time in compiling a large part of my material, which in many instances would have otherwise been very meager and inaccessible.

A.H.M.

McGillan, A. H.,
1924.

A well presented
survey. Shows the possibilities
offered by even a small
city (6000).



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History of the Town of Skowhegan.

The Town of Skowhegan, county of Somerset, State of Maine, lies on the north and south sides of the Kennebec River. It is bounded on the north by Cornville, and Madison, on the east by Hartland and Canaan, on the south by Canaan and Clinton, and on the west by Noridgewock.

The territory was originally a part of Canaan, but in the year 1823 was incorporated under the name of Milburn. This name it bore until 1836, when the efforts of many of the people, who wished to preserve the ancient name, succeeded, and it was called by its present name, Skowhegan. Skowhegan, pronounced by the Indians, Skoohegan, signifies a "place to watch". It was formerly a famous place for a colony of Kennebec Indians, living some eight miles up the river to the north, to catch salmon and other fresh water fish, which were accustomed to rest themselves behind the rocks and in the eddies, in order to recruit their energy, before making efforts to ascend the falls.

Benedict Arnold, in leading his deserters into Canada at the time of the Revolutionary War by the way of the Kennebec River, camped for several days in Skowhegan, the delay being caused by the rapid water and falls at this point, which necessitated carrying his boats and supplies around this hazardous part of his journey.

The first settlers in this community were farmers, trappers, and lumbermen, who, perchance realizing the possibilities of development of the water power, and the fertility of the soil, established themselves in rude but sturdy log cabbins. This primitive spot prospered, grew and gradually attracted others. Land was cleared and tilled and more substantial

Buildings erected, the latter made possible by the appearance of a saw mill on the island.

The agricultural products for the year 1837 were, corn 2019 bu, wheat 4506, rye 579, oats 13801, beans 321, peas 953, barley 1286, potatoes 37875, turnips 715, apples 4865, wool 5216 lbs, maple sugar 720, pork 90400, beef 10550, butter 19555, cheese 6260, hay 2084 (English) tons, cider 228 bbs,. There were 208 horses, 15 colts, 145 oxen, 341 cows, 349 other cattle, 2323 sheep, 379 swine,. There were 26 chaises, 78 horse wagon, 1 coach, 1 grist mill, 2 saw mills which sawed 50000 feet of boards, one tannery with 10 vats, \$15350. stock in trade, \$3000. money loaned, and \$9100 bank stock.

In 1841 the State valued the real estate at \$183970., and in 1845 at \$196403.

In 1849 there was a more extensive report made which showed that the town contained an area of 12071 acres, of which 48 were covered with water, 324 occupied with roads, 2913 of waste land, 6678 of improved land, 3000 of woodland, 2096 of pasture, 12 of natural meadow, 2200 of mowing, and 1800 of tillage. The value of real estate was \$246505. and of all taxable property \$322026. There were 337 polls, 18 stores, shops, ect, and 19 other buildings. The town by taxes raised \$1000 for town affairs, \$2250. for roads, and \$600. for schools.

At that time the falls at Skowhegan would strike a lover of natural beauty with delight. Situated in the middle of the river, was a high, rocky, wood crowned island, sprinkled with a few pleasant residences, and the waters, after meeting this obstruction, divide and passing along,

they are precipitated over a fall of $22\frac{1}{2}$ feet. Occasionally cattle were born over the falls, a yoke of oxen at one time passed over the falls backwards with a log behind them and came out in safety. Geese ride over it. They are drawn on imperceptably at first, in the spirit of the old proverb, "Facilis descensus averni est", but they find out the impossibility of escape when too late.

To-day Skowhegan is a prosperous and enterprising town. It is situated in the central part of the State of Maine on the Kennebec River. It is the terminal station on a branch track of the Maine Central R.R.Co., from Waterville. It has trolly connection with Madison which is 10 miles to the north, and is connected by stage with Canaan, Athens, and all points north. The roads are fair. Its connection with these towns and cities mentioned makes it a business center, particularly for the towns located in Somerset County. It is a manufacturing and farming as well as a business center. The manufacturing industries are varied, as shoes, wollen mills paper mills, pulp mills, lumber mills, graineries, and food canning. These industries are for the most part located in the center of the town adjacent to the river. Their situation was formerly to be near the source of power, which up to a few years ago was entirely water power but now is electricity. The Central Maine Power Co. now owns and controls all of the water power in the town.

There are two small private hospitals of 20 to 30 beds each at which the seven doctors in the town take their hospital cases.

The valuation of the town for the year 1922 is as follows:

Real Estate, resident, -----	2,626,380.00
Real Estate, non-resident, -----	<u>1,307,615.00</u>
Total Real Estate, -----	3,933,995.00
Personal Estate, resident, -----	889,555.00
Personal Estate, non-resident, -----	<u>362,275.00</u>
Total Personal Estate, -----	1,251,830.00
<hr/>	
Grand Total, -----	5,185,825.00

A further description of the town will develop from the report.

GEOLOGY

The nature of the geological formation shows that Maine belongs to one of the oldest parts of the United States. The marks of the glacial period may be traced in several parts of the state, the changes in extent and form of the river beds and lakes are shown by the rock formation of the vicinity and the nature of the deposits which were brought from the mountains to the valleys. The northern portion of the state belongs to the Devonian period, the southern portion of the state consists largely of fossiliferous clays. Granite, slate, and marble exist in quite large quantities. Stones and boulders are found universally all over the state. The soil shows likewise the effects of the glacial period. Kames run in a general northerly and southerly direction.

TOPOGRAPHY

The State of Maine is divided into two sections, the northern portion drains into the St. John River, and the southern portion into the Kennebec, Penobscot and Andrewscoffin Rivers. Skowhegan is situated on the north and south banks of the Kennebec River, which in this portion of the state runs in a general easterly direction. The contour of the land is such that the two portions of the town drain into the river from the two sides. It is situated in the 44th degree 40 minute north latitude, and is 200 feet above sea level.

TOPOGRAPHY

STATE OF MAINE

FREDERICK W. PLAISTED, GOVERNOR

F. E. MACE, EDWARD P. RICKER, J. M. McNULTY, E. C. JORDAN

STATE WATER STORAGE COMMISSION

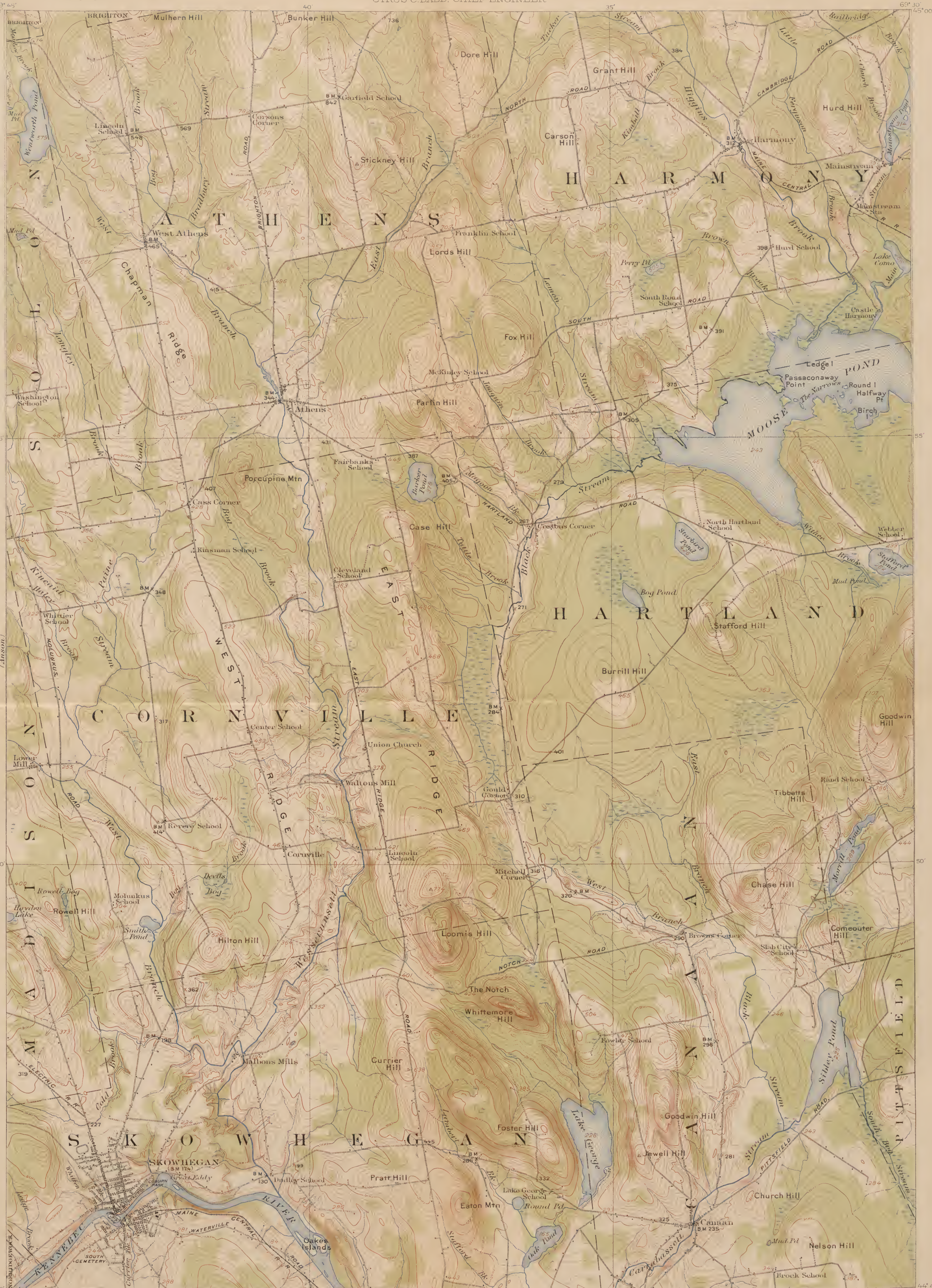
CYRUS C. BABB, CHIEF ENGINEER

MAINE

(SOMERSET COUNTY)

SKOWHEGAN QUADRANGLE

U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH
DIRECTOR



R. B. Marshall, Chief Geographer.
Frank Sutton, Geographer in charge.
Topography by Hersey Munroe and Olinus Smith.
Control by E. L. McNair and K. E. Schlachter.
Surveyed in 1912.
SURVEYED IN COOPERATION WITH THE STATE OF MAINE.

Smith
Munroe

Scale 62500
Miles
Kilometers
Contour interval 20 feet.
Datum is mean sea level.

TRUE NORTH
APPROXIMATE MEAN
DECLINATION 1912.

Edition of June 1913.

SKOWHEGAN

THE DIRECTOR,

Washington, D. C.

January, 1913.

CONVENTIONAL SIGNS

WATER
(printed in blue)

WOODS

(when shown, printed in green)

CLIMATE

The Town Of Skowhegan is situated in the north temperate zone, and about one-hundred miles from the coast, as has been said, it is located on the banks of the Kennebec River. The temperature varies during the year from 35 degrees F. below zero in the winter to 90 degrees F. above in the middle of the summer. There is an average snow fall of 4 feet, and an average rain of 17 inches. The climate is suitable for the farming of the more hardy crops and the farming season is of about four months duration. The temperature is very variable, the thermometer often varying from 20 to 30 degrees in the winter and more in the summer, in a day. This is productive of many out breaks of upper-respiratory infections, particularly during the spring and fall seasons.

POPULATION

The last census was taken in 1920, and shows a total population of 5981. The figures for the constitution of the population are not available for the town alone.

HEALTH DEPARTMENT

ORGANIZATION of the HEALTH DEPARTMENT.

The health department of the Town of Skowhegan is apparently very loosely organized, for its activities are carried on by at least eight different heads, who work independently of one another. There is very little cooperation among the different departments and all are responsible only to the select men of the town. The personnel of the health department is divided as follows:-

- (1) Health Officer.
 - (2) School Physician.
 - (3) School nurse.
 - (4) District Nurse.
 - (5) Meat Inspectors. (2)
 - (6) Milk Inspector.
 - (7) Town Clerk.
 - (8) Select Men.
-

Activities of the Health Department.

The health officer is appointed by the select men of the town and works in conjunction with the State Board of Health at Augusta. He is not a full time official and his remuneration consists of fees which he is allowed in the performance of his various duties. These fees are paid by the town. For the past few years \$500. has been the amount set aside by the town as allowable to this official in the performance of his duties. For the year just past 1922, there was \$293.60 expended, of which the health officer received \$159.83 as fees for his work, for that year. His activities can be judged somewhat by

the sum of money expended. His duties are as follows:-

(a) The reporting of infectious diseases weekly to the State Department of Health at Augusta. His report is a consolidated statement that he receives from the local physicians.

(b) The quarantening and fumigating of all houses and places in which there have been certain infectious diseases at the close of the quarantine period.

(c) The answering of all nuisance calls, investigating the conditions against which the complaints have been made, and seeing that these conditions are corrected, if in his judgement they are undesirable. The nuisances for the most part have consisted with the earth closets and sink drains.

The school Physician is likewise appointed by the select men. Once a year he examines the school children in all of the schools of the town. In this work he is assisted by the school nurse, who arranges to have the pupils come to her office in the municipal building where the school physician meets them. The results of his examinations are sent to the parents of the children and it is not a part of his duty to treat or advise. All children that have been excluded from a school because of sickness must come to him for permission to return to school. His salary is \$400. a year and is paid by the town.

The School nurse is supported by the local Red Cross and is a full time official. Her duties are to assist the School Physician in his yearly examinations, keep all of the records pertaining to the same, notifying the parents of any school children that are found to be defective, and to check up on the recommendations that are made by the School Physician.

She further more talks to the children, the parents, and the school teachers on subjects pertaining to public health. In times of epidemics and sickness she distributes literature which is supplied by the State Board of Health.

The District Nurse is supported by the Metropolitan Life Insurance Company, and in part by various local clubs and organizations. Her services may be summoned then by all residents of the town whether they are policy holders or not. She visits any person calling her but does not make a second call unless the case has been seen by one of the local physicians. Her services are essentially for the acutely ill. Cases of minor indisposition are turned over to the care of the family after she has explained the routine care. In the case of the chronic sick she makes a limited number of visits, as a rule six visits to one person are considered as a maximum. The length of each visit does not usually exceed one hour, But in seriously ill cases where the patient is too sick to be removed to a hospital she may stay for twenty-four hours. More than one visit a day is sanctioned only in extreme cases.

She may make one visit a month for pre-natal instruction and eight post-natal visits as well as a ninth visit at the end of five weeks.

She may care for the baby as dressing the cord, ect, during the period that the mother is under post-natal care. Her duties are then varied, and consist of lending a helping hand where it is most needed.

There are two meat inspectors for the town of Skowhegan. They receive their remuneration from the owners of the meat that they inspect. It is their duty to inspect and stamp all meat that is of domestic production and which is shipped out of town only. There is then no inspection of any meat coming into the town and furthermore no inspection of domestic meat sold in the town, unless by chance some of that shipped away later returns to the town for consumption.

The Milk Inspector is appointed by the select men and receives from the town \$100. for his services. He works in conjunction with the State Milk Inspector and they together visit and score all farms within the town limits which produce milk for local or outside traffic. They make recommendations and enforce a satisfactory standard of cleanliness both as regards stock and equipment. The stock is tuberculin tested yearly and all reactors are disposed of, this keeps the herds somewhat free from tuberculosis. The milk from the various farms is tested both physically and chemically, and any undesirable milk is condemned until the causative conditions are found and remedied. If any owners refuse to comply with their requests and recommendations, steps are immediately taken to enforce them. A score of 50% is allowable in accordance with the state law.

The Town Clerk, who is elected to office by a vote at town meeting, has, as a part of his duties, the recording of vital statistics. For this work he is paid in fees by the town. For the year 1922 he received fees to the amount of \$131.75 , for the recording of births, deaths, and marriages.

The Select Men supervise the policing of the streets, vacant lots, etc. A plot of land is hired by the town for a dumping ground, and all rubbish is hauled and dumped there. For this purpose the town expended in the past year \$374.39 . This sum was expended as follows:-

Rental of dumping ground-----	\$150.00
Hauling rubbish -----	91.50
Labor -----	33.50
Misc. -----	99.39

Total ----- \$374.39

The budget for the year ending February 20, 1923 is as follows:

1. Health Officer

(a) Official fees -----	\$159.83
(b) Groceries and provisions -----	30.07
(c) Medicines and Medical attendants--	93.00
(d) Misc. -----	10.70

2. Vital Statistics

(a) Births, marriages and Deaths ----	131.75
---------------------------------------	--------

3. School Physician

(a) Salary -----	400.00
------------------	--------

4. Sanitation

(a) Renting ground for dump	-----	\$150.00
(b) Hauling rubbish	-----	91.00
(c) Labor	-----	33.50
(d) Misc.	-----	99.39

5. Milk Inspector

(a) Salary	-----	100 .00
------------	-------	---------

Total ----- \$1299.74

This total of \$1299.74 spent for the benefit of Public Health represents a per capita expenditure of approximately \$0.22 per year. The Health Department of New York City estimated that the per capita expenditure for 1911 as given by Dr. W.H.Parks should be from \$0.50 to \$1.00. With the now increased cost of labor and materials this figure must be considerably increased. Further more in a small community as Skowhegan, the amount of available funds for Public Health work is comparatively less than that for a large city. C.Fox in the J.A.M.A. for September 18, 1920 estimated that a minimum health organization for a city of 10,000 people could be supported by an expenditure of \$0.75 per capita per year. This expenditure provided for a Health Officer, a Nurse, and a Clerk, all full time officials and necessitated a yearly expenditure of \$7,500.00. This organization seems to me to be the minimum for adequate function in any community, and if applied to Skowhegan with its 5,981 people would necessitate an expenditure of approximately \$1.25 per capita per year. An analysis of the above account shows that the Public Health Protection of Skowhegan is inadequate.

The Health Department of Skowhegan is very inadequate, as would be expected after considering its loose organization. The foremost deficiency to me is the fact that there is little or no organization, and this is impossible without at least a full time health officer. There are but two full time officials and these are nurses, who are more or less responsible to themselves alone. The health officer should be a man well trained in his work, conscientious and thoroughly interested in his duties, and of sufficient personality and force to carry his projects through.

The present health officer is a very good business man and an estimable citizen of the town, but he is not a man of the above mentioned qualities, and he is far from being a full time official. Considering the remuneration which he receives for the performance of his duties, it is obvious that his chief interest is in making his living which must be done thru other channels than those of public health. He has then neither the time, interest, ability, or knowledge to properly perform the duties of a health officer.

One of the prerequisites of a health department is that it should be organized and controlled by one official whose word should be the law to be obeyed in that particular community but such is not the condition in Skowhegan. In fact quite the opposite is found to be the condition, for there are at least eight different individuals having the control over eight different departments and not in the least under the supervision of the health officer.

The health officer's main activities, as have been stated above, are the reporting of cases of infectious diseases, quarantining and fumigating, and answering nuisance calls. The work of reporting the number of infectious diseases for the town is inaccurate as will be

seen in comparing the figures for morbidity and mortality. This fact I believe to be due in a large part to the carelessness of the local physicians, but it is also due to the failure of the health officer to get cooperation. As regards his work of quarantining and fumigating, I believe that this is done with a fair degree of adequacy, and is most probably his most efficient work. He has further more been faithful and untiring in the answering of nuisance calls, and to a large degree he has been successful in securing improvements, but I do not believe that he has been initiative in discovering for himself undesirable conditions, remembering that he is not paid for so doing. Certain other complaints have been made regarding the contamination of sources of public drinking water, for the most part earth closets in the vicinity of the aqueducts. There is a law compelling all people to connect their houses with the sewer where it is near by, and in most cases where complaint has been made this law would apply. But because of lack of cooperation with the town officials, the health officer has been unable to remedy this defect in all cases. Most of this dissension in regard to the water situation grew out of some investigations that were started by one of the Ladies philanthropic societies of the town, and resulted in one of the State Health Officers coming to the town to survey some of the water sheds of these various aqueduct companies. Some he passed with recommendations for improvements, and some he condemned. There was a resulting conflict between the owners, consumers, health officer, and infact everybody, so that for the present this investigation has been dropped. But the result was fruitful in that many improvements were made and the people in general were interested in their water supply. A further discussion of this situation will be found in the chapter on the water supply.

The work of the school physician and the school nurse, has been perhaps the most efficient and adequate of any of the work listed under this chapter. This is in a large part due to the fact that the school nurse is a full time official. This work has been in effect for so short a period that it is difficult to estimate the whole benefit of their activities, but at any rate it is a step in advance.

The district nursing is very commendable and needs no further comment here.

The milk inspection and the meat inspection I believe to be inadequate, for the most part this is due to the lack of supervision.

The writer found the department of Vital Statistics to consist of three large books where the deaths, marriages, and births are tabulated, in the order of their occurrence at the city hall by the town clerk. The result was that there were no vital statistics available, as this valuable information is all sent to Augusta, where it is supposed to be analysed. The figures obtainable from Augusta for the town were very scanty.

There are many aspects of public health which are not regulated such as the inspection of provision stores, soda fountains, hotels, restaurants, barber shops, markets, etc. But with the present health organization now in existence little better could perhaps be expected. One further comment, I believe a great and important factor in the health work of any community is the establishment of a diagnostic laboratory, and the nearest laboratory to Skowhegan, exclusive of those maintained by the local physicians, is located in Augusta.

WATER SUPPLY

WATER SUPPLY

The water supply of the town of Skowhegan may be said to be composed of two different divisions, one, the so called City Water, which is used mainly for non-drinking purposes, and the other, or the drinking water, which comes from various privately owned aqueducts. These two divisions will be taken up separately.

SKOWHEGAN WATER COMPANY

The Skowhegan Water Company, or the City Water Company, is a locally owned corporation, supplying nearly every home in the town as well as supplying the town proper through the hydrants and public buildings. This water is with very few exceptions used for non-drinking purposes.

Throughout most of the year the city water is derived from springs, which are located on the north side of the river and at the southern edge of the town limits. This water is collected in a reservoir, or small pond, increased over its natural size by the construction of a small earthen dam. This reservoir serves as a collecting unit and sedimentation unit before the water is pumped to the system of pipes which supplies the town. The dam is 110 feet long and 14 feet high, and brings the capacity of this reservoir up to 1,750,000 gallons. The contour of the water shed is such that all surface water drains into the reservoir for a considerable distance as will be seen by the accompanying map. The soil in the vicinity is sand and sandy loam, which serves as an excellent filter.



WATER SHED OF
SKOWHEGAN WATER COMPANY

RESERVOIR



There is a pumping station located about fifty yards from this reservoir. There are two electric driven pumps in the building each having a capacity of 750 gallons per minute. These two pumps supply the town with approximately 250,000 gallons of water per day.

PUMPING STATION



The water is pumped from the reservoir through coarse screens which serve to keep out the larger bits, but it is not filtered. There is a certain amount of sedimentation that goes on in the reservoir prior to being pumped and this serves to keep the water sufficiently clear. In the pumping station the water is further treated with chlorine by means of a W. & T. Chlorinator.

As was mentioned in the chapter on the sewer system, during a portion of the year, when it is dry in the summer, the springs above mentioned that supply the water to the reservoir dry up considerably and as a result the water supply must be increased else where, this is accomplished by taking water from the river at the head of the island. This source is undesirable, in as much as a considerable portion of the sewage is dumped above the dam. In addition to this all of the towns located further north on the river dump their sewage into the river as well. This undoubtedly contaminates the water and is always a potential source of an epidemic to the town, for a certain portion of the inhabitants must use this water for drinking purposes. The water from the river is chlorinated as well but the towns people have given it a bad name and for that reason a very few probably drink it. When ever the water is pumped from the river a notice is placed in the weekly paper and the people are advised to boil it.

The water from these two sources is pumped directly into the system of pipes that supplies the town. There is a pipe attached to this same system that leads to an iron reservoir or "stand pipe", which is located on a high hill at the north western edge of the town. This stand pipe is seventy-five feet high and has a capacity of 320,000 gallons. It is not covered. The system of pipes is of iron construction and the water

pumped into them backs up into the stand pipe and in this way maintains a constant pressure which is proportional to the water level in the stand pipe and to the elevation of the outlet of the particular faucet in question. The pressure is sufficient so that the town is well protected against fire. With a system such as this it seems quite difficult to wash out the stand pipe and it is conceivable that water may stand in this stand pipe almost indefinitely. In this respect the stand pipe is exceedingly well named.

The houses are furnished with meters in 99% of the cases. There are 870 meters in use at the present time, this would indicate that the houses are almost universally supplied with city water.

As the water supply is almost wholly from springs there are no rules or regulations in force to protect and maintain the water shed in a sanitary condition, its process of natural filtration thru the soil described is considered sufficient protection with the additional process of chlorination. The reservoir first described is protected to a certain extent by the official in charge of the pumping station. Children are not allowed on the premises, swimming, fishing, and boating is prohibited, and there is no dumping of refuse allowed in the vicinity.

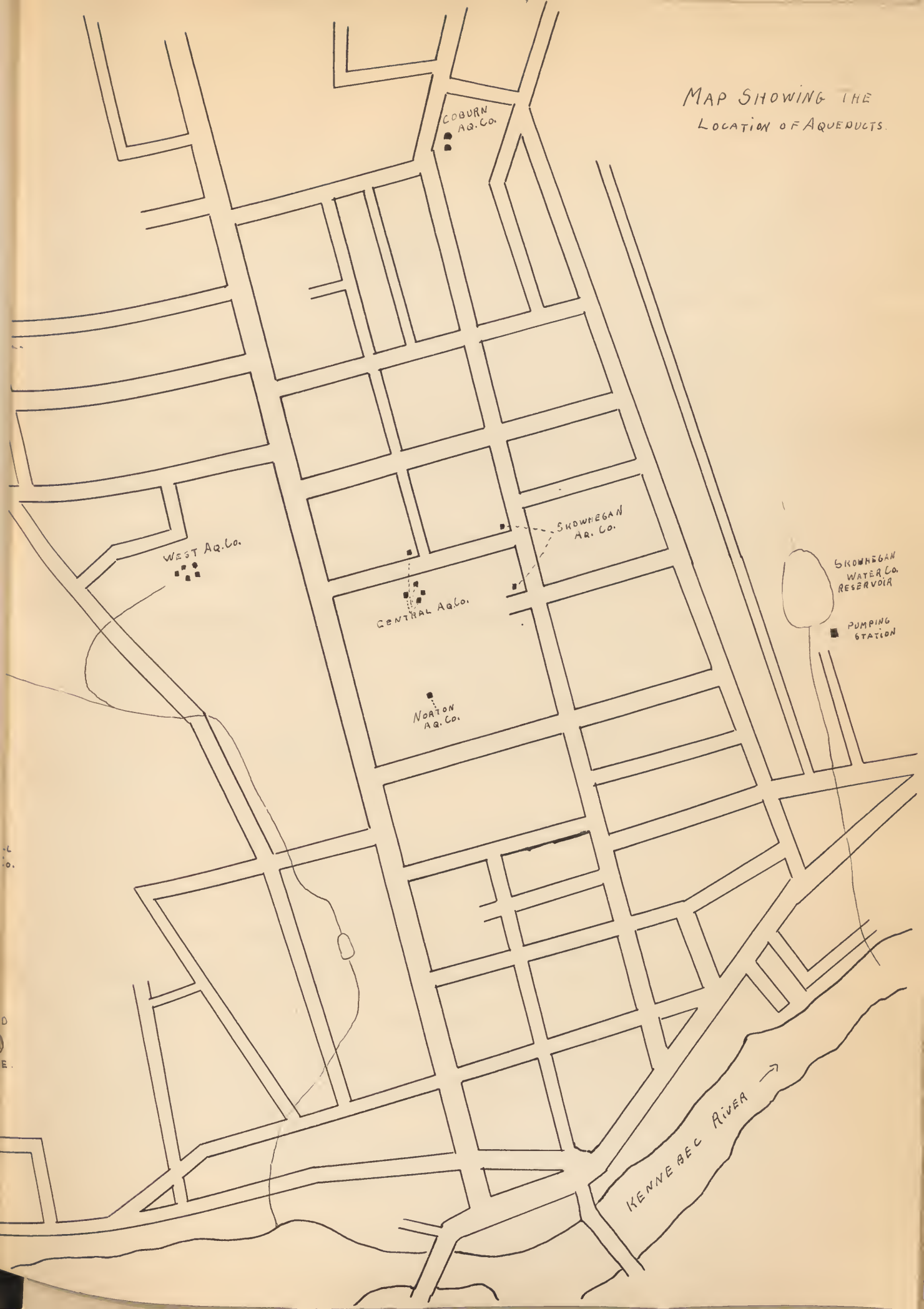
The State Department of Health tests the water several times a year and occasionally surveys the water shed. They make both chemical and biological examinations and report their findings to the water company with their recommendations. Further more the water company themselves make bacteriological tests every week, in order that they may ^{know} the sort of water they are dispensing to the people.

The Skowhegan Water Company is a locally owned corporation, as was said in the first part of this report, which supplies water to the

town proper as well as to the towns people. The water used in the hydrants and public buildings is under contract. That used by private individuals is a separate account and the bills for this are sent out by the water company and not by the town officials, the amount of the bill being determined by the reading of the meter.

The analysis of the entire water supply of the town will be taken up under a separate heading at the close of this chapter.

MAP SHOWING THE
LOCATION OF AQUEDUCTS.



DRINKING WATER

The drinking water of the town is for the most part derived from six small aqueduct companies, which are likewise privately owned, and from two local dealers who own private springs and deliver drinking water to their customers. These various aqueducts are supplied from springs in the near by vicinity, and with one exception they operate through the force of gravity. For this reason it will be seen that other people or houses so situated as to be above the level of the aqueducts are forced to seek their water for drinking purposes from one of the two dealers mentioned, or to resort to the use of private wells. These six aqueducts are located on the north side of the river and in no case does the aqueduct system extend to the opposite side of the river. This fact alone has developed the water business for the two dealers, in as much as the city water for the reasons mentioned is undesirable.

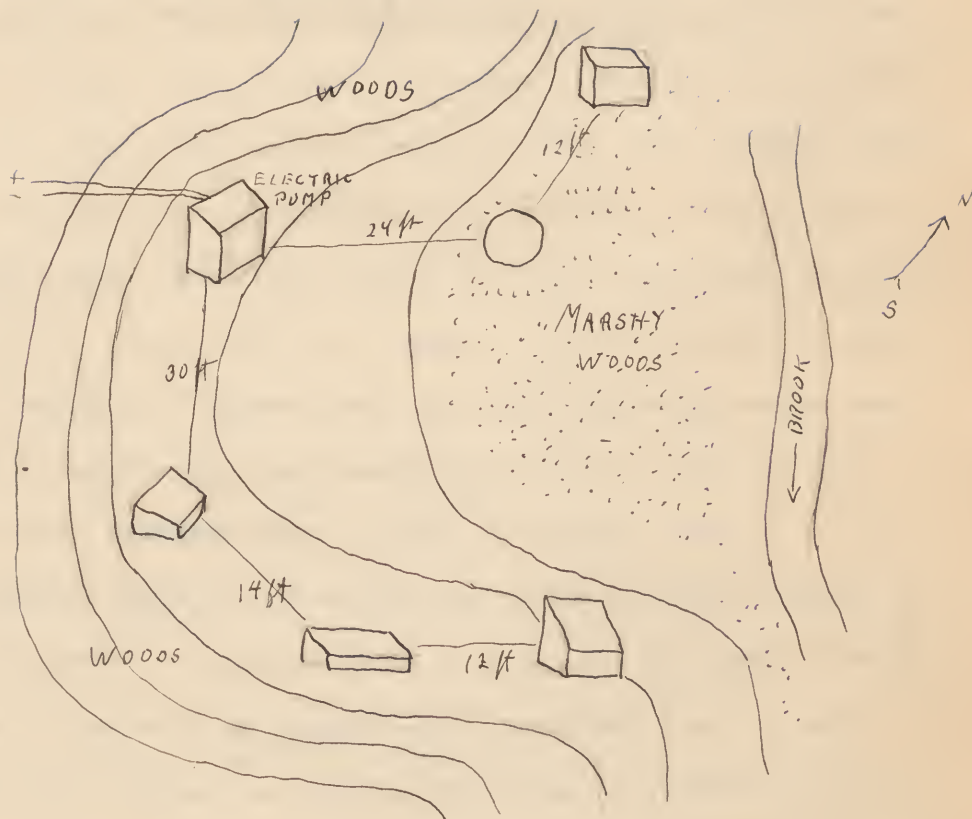
A description of the various sources of water for drinking will follow.

MERRILL AQUEDUCT COMPANY

This aqueduct source is located in a marshy wood at the north western part of the town about one quarter of a mile from the nearest habitation. It is free from dumps, earth closets or any other source of pollution. There is a small brook in its immediate vicinity which springs from a point about one mile from the aqueduct and which is likewise free from any known pollution. The brook is fed entirely from springs. For the

relative position of the aqueduct see the map. The Merrill Aqueduct Company consists of a system of five brick and concrete wells all within a radius of 100 feet. These wells are dug only a short distance below the level of the ground, and rise from eight to twelve inches above the surface of the ground. This protects the wells from surface water contamination. Four of these wells are covered with wooden houses, the sides are shingled and the roofs covered with galvanized iron, the fifth is covered by a large slab of slate. These are all connected by a system of iron pipes with an electric pump and air pressure tank that works automatically thus maintaining a constant pressure and assuring the consumers with a constant water supply. This aqueduct supplies only six families.

A diagram of the arrangement is given below.



nearest house $\frac{1}{4}$ mile.

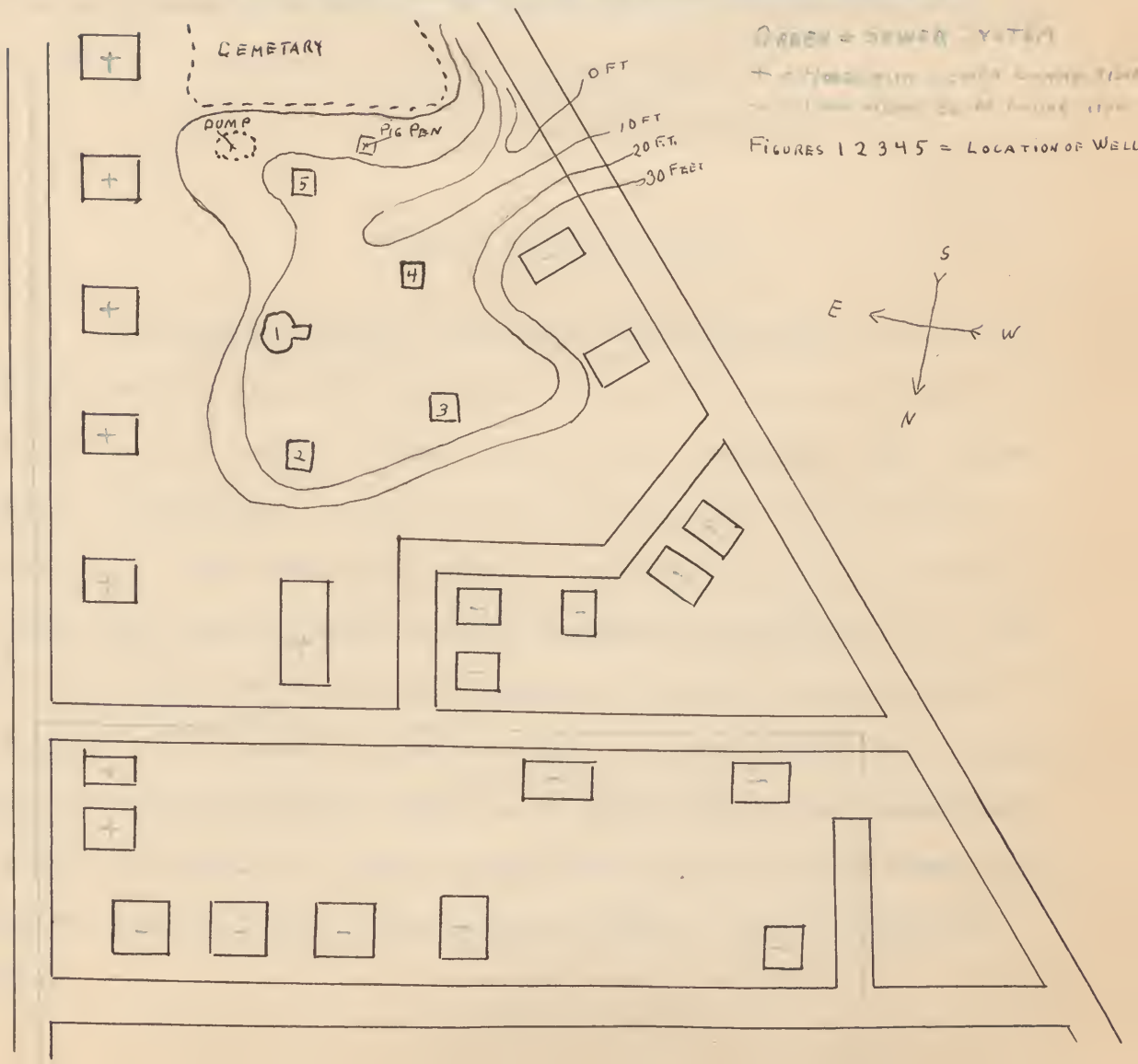
WEST AQUEDUCT COMPANY

The West Aqueduct Company is situated in a small bit of marshy wood much nearer the central part of the town as will be seen by its location on the map. It consists of five small houses similarly constructed. They are all covered with houses and in addition have screened windows or doors which are padlocked to exclude any curious trespassers. The wells flow into a common main iron pipe and the water is conducted to the consumers by gravity.

The water comes from springs of which this part of the town seems to be abundantly supplied. There is no brook in the vicinity. The land in the immediate vicinity is well ^{away} from objectionable refuse, but at a short distance from the wells there are abounding sources of pollution, which taking the contour of the land in to consideration would drain towards the wells. The character of the soil is sand and sandy loam. Fifteen houses without sewer connection were counted all within a radius of one eighth of a mile, the nearest being about fifty yards. Ten yards from one of the wells there is a pig pen, in which there was abundant manure, swill and two pigs. This pig pen is located at a higher level than the wells which would seem to assure plenty of opportunity for contamination. To the south of the wells there is a large cemetery, also located at a higher level.

The aqueduct supplies one hundred and fifty families, and many of the families are connected to the iron main by means of lead pipes. Formerly all families were so connected but during recent years many have at their own expense put in iron pipes. One good feature about this water supply is that in each house there are water barrels and the water is constantly running. A diagram of the conditions found is shown.

West Aqueduct Company House



NORTON AQUEDUCT COMPANY

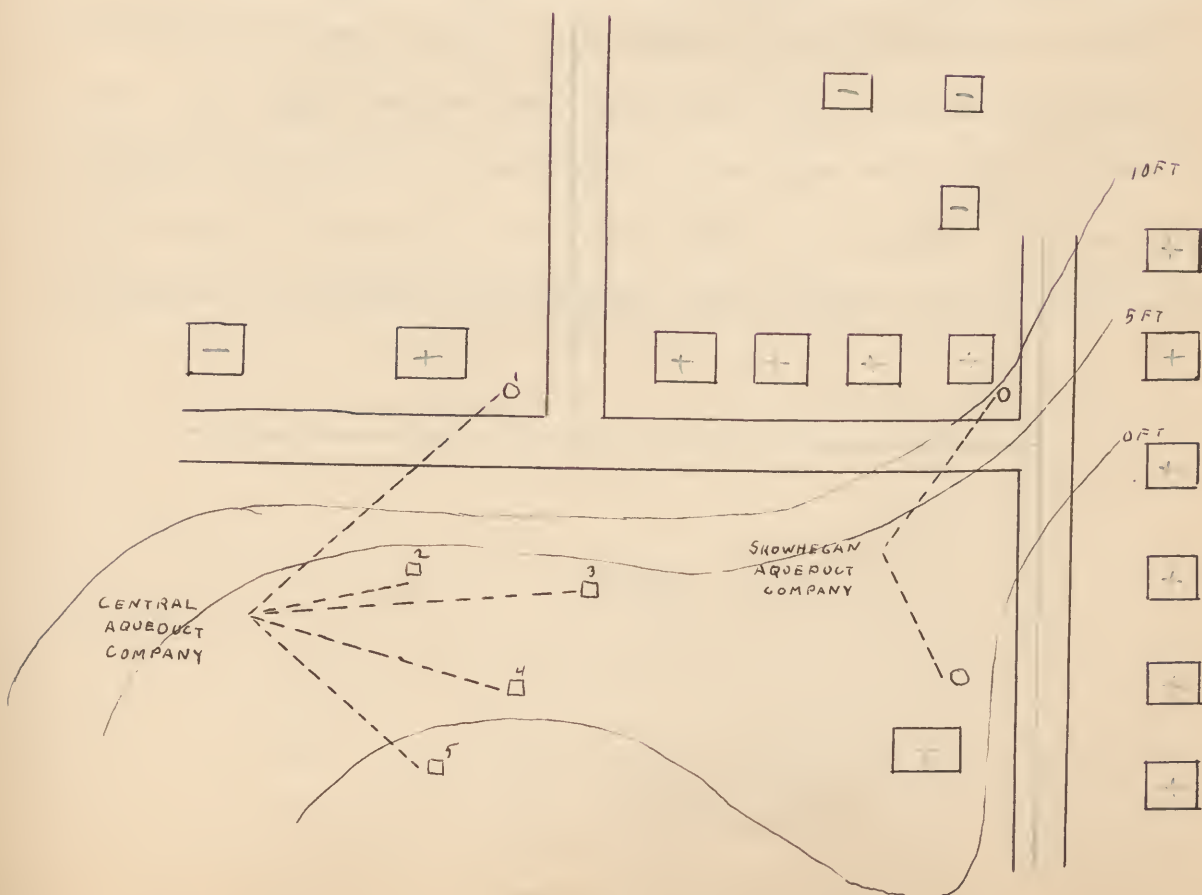
This aqueduct is located in the center of a small garden. It consists of one small brick well which rises about nine inches above the level of the ground. The well is covered by a small wooden house which is sadly in the need of repairs, the roof is partly covered with shingles, the door is padlocked and there is a small screened window providing ventilation. The well is covered with a few short pieces of boards. The source of water must of necessity come from some water vein. This aqueduct supplies drinking water to seven families, and is the only one having the obsolete lead main. The land is partly rocks and rich loam which serve as a poor filtering process in as much as the garden is each year enriched with manure, tending to saturate the ground with pollution.

CENTRAL AQUEDUCT COMPANY

The Central Aqueduct consists of five wells located in the central part of the north side of the town, four on the south side and one on the north side of Prospect street. The four are covered with small houses similar in description to those of the other companies and the fifth is covered with a small metal slab which is padlocked in place. The doors are all padlocked some have small screened windows for ventilation. The water flows from these five wells to the consumers by gravity, being conducted thru iron pipes. This aqueduct is located close to a house without sewer connection which must of necessity resort to an earth closet. The following map will show the relations of these various structures as well as those of the Skowhegan Aqueduct Company. This aqueduct company (C.A.C.) supplies 28 families.



SHORE LINE OF RESERVOIR
- SHOWHEGAN AQUEDUCT
- WATER LEVEL - 100 FT.



SLOWHEGAN AQUEDUCT COMPANY

This aqueduct consists of two wells as shown in the preceeding diagram. They are located on the west side of North Street in the vacinity of dwelling houses. The wells are of brick and cement and are raised about twelve inches from the ground to prevent the surface water from draining into them. They are not covered by houses but with slabs of slate. As will be seen in the diagram there are several houses that are not connected with sewers in the immediate vacinity and these houses are located at a higher level than the wells, thus making it possible for ground drainage to reach the wells. These houses resort to earth closets. This aqueduct supplies 50 famlies, thru iron pipes. The system of conveyance is by gravity.

COBURN AQUEDUCT COMPANY

This aqueduct consists of two brick and cement wells located to the south of North Street in a marshy hollow. The wells are located about fifty yds from the road. About fifty feet from the wells there is a private dwelling with a barn under which there was a small pig pen filled with manure at the time of the visit, there were no pigs in it however and the house is connected with the sewer. This aqueduct supplies 126 famlies.

Pictura

GREEN'S SPRING

This spring is located in the northern part of the town well outside of the village limits, about fifty feet from a country road, and 100 feet from a farm house. The water bubbles up from sandy soil, cool and clear. The spring water is collected in a small artificially enlarged basin, the sides of which are incompletely surrounded with zinc sheet metal. This basin is located at the foot of an overhanging bank and about eighteen inches of water is maintained at all times. The excess trickles off into a wood eventually to find a small brook. As will be seen in the picture this basin is about eight feet long, four feet wide and two feet high. The whole is covered with a loosely constructed roof of boards, and the sides are open. The structure is fenced off from any cattle that might be in the vicinity.

The spring is rented from the owner who lives in the farm house mentioned. The farm house is not connected with a sewer but the contour of the land is such that there is no danger of pollution from this source.

The ground about the spring is wet but the basin is so located that there is no danger of a return of water to the basin. The equipment as will be seen from the picture consists of a rudely constructed box upon which the bottles to be filled are placed. Water is sold to his customers from five gallon bottles and he supplies about 1000 people.

A picture and diagram are given on the next page.

Green's Spring

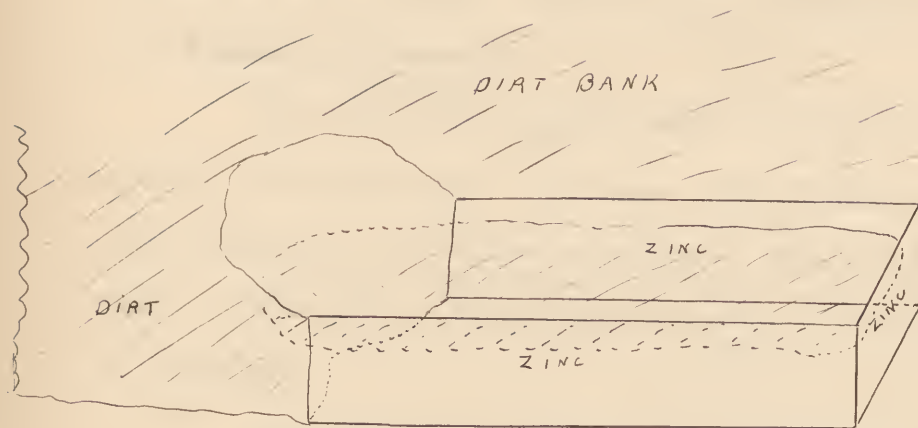


DIAGRAM OF SPRING

PENNELL'S SPRING

This spring is located on the other side of the town about two miles from the center of the town. It is about twenty feet from a country road that is little traveled. This spring is at least one half of a mile from the nearest habitation and in a woods. The water comes from a vein that bubbles up at this point and the basin has been enlarged and altered as follows.

The bed of the spring has been dug out and the sides built up with cement masonry, the top is likewise covered with cement masonry except for a hole about two feet square where the water is dipped out to fill up the bottles. The bottom of the spring is on the natural gravel. The top is built up about two feet around the opening giving the appearance of two blocks of cement the smaller one being on top, and the whole being hollow with the opening at the top of the smaller block. This spring is covered with a wooden building, the roof being of tarred paper. There is a door-way but no door.

The proprietor supplies water to his customers in five gallon bottles, and distributes them from a team six days a week, collecting the empty bottles as a full one is delivered. He sells about 10,000 bottles a year to 2,000 people. Most of his customers are located on the south side of the river.

The bottles are rinsed out at the spring, and are very infrequently washed out with hot water. There is no provision made to return the same bottle to the same family, consequently the cleanliness of the bottles depends to a large extent upon the faithfulness of the individual housewives.

A diagram and picture of the spring are on the next page.

Pennell's Spring.

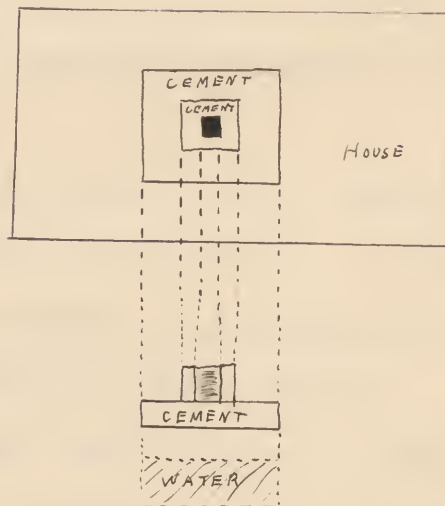


DIAGRAM OF INTERIOR

CRITICISM OF WATER SUPPLY

In a criticism of the water supply for the town one must of necessity criticise each unit separately, or each individual water company.

The Skowhegan Water Company should abolish the taking of water from the Kennebec River for any other purposes than supplying the hydrants, watering lawns, sprinkling the streets, etc. It is impossible to determine to what use any of the water will be taken once it is in the city mains. There should be a constant source of supply found and established. I would further recommend that the stand pipe be cleaned out and covered.

The Merrill Aqueduct Company was found to be in good condition, and was the most efficient and best located of any of the smaller aqueducts.

The West Aqueduct Company should demand the removal of the dump and pig pen, and should also demand that all the fifteen families in the neighborhood without sewer connection be compelled to abolish the earth closets.

The Norton Aqueduct Company should be abolished entirely, both because of its lead main, and also because of its location in a truck garden. None of the houses supplied by this company are so situated that they could not connect to one of the other companies.

The Central Aqueduct Company although not ideally situated would be made satisfactory with the abolishment of the one earth closet in its vicinity and the connection of this party to the sewer system.

The Skowhegan Aqueduct Company should compel the three houses in its vicinity to connect with the sewer and should cover its houses or wells with a suitable protection. The present arrangement is not at all sanitary or satisfactory.

The Coburn Aqueduct Company should have the pig pen and manure pile removed from its vicinity.

Green's Spring although ideally located is of an altogether too meager and primitive construction. The sides of the spring should be of brick and cement and should be closed over the top, it should be protected with a suitable house to insure privacy. There should be arrangements provided whereby the bottles are thoroughly cleansed and sterilized and the filling process should be more modern. The operator's hands should be clean at all times.

Pennell's Spring should have a door put on the well house to insure privacy at all times. The recommendations applied to Green's Spring should be enforced here as well.

The Aqueducts all draw their water from a stratum of sand saturated with water, which extends all along this region, at a level of about five to ten feet below the ground. The water is clear, cold and purified by its filtration thru this strata. The bacteriological examination shows that the water is not polluted, but the chemical examination of nearly all aqueducts (see water analysis) , shows evidence of past pollution. This I think is explained by the fact that the strata in many places is becoming saturated with surface water, the cleaning up of all sewers in the vicinity would greatly aid in clearing up this danger for it is but a matter of time before the soil will become completely saturated and then the process of filtration that nature is so adequately handling at present will be put out of working order.

WATER ANALYSIS

Water Analysis.

The water analysis of the various water companies for the town are given below :

Aqueduct Company No.	1	2	3	4	5
Bottle No. -----	100	103	165	50	143
Serial No. -----	23,816	23,809	23,827	23,920	23,889
From -----	S.W.C.	W.S.A.C.	S.A.C.	Cob.A.C.	Gen. A.C.
Source -----	Pub.Tap	Public	Pub.Tap	Pub.Spring	Public
Date of Collection --	1/29/24	1/28/24	1/29/24	2/20/24	2/12/24
Date of Analysis --	1/30/24	1/29/24	1/31/24	2/21/24	2/13/24
Color -----	20.0	0	10.0	30.0	0
Turbidity -----	20.0	0	0	0	0
Sediment -----	Mineral	Vegetable	Veg.	Veg. & Min.	0
Odor Cold 20 C. -----	Veg.	0	0	0	Veg.
Total -----	52.0	99.0	68.0	0	93.0
Free Ammonia -----	0.032	0.012	0.038	0.270	0.010
Nitrogen Alb. NH ₃ ---	0.090	0.072	0.036	0.074	0.054
as Nitrates -----	0.75	5.0	2.5	1.25	2.6
as Nitrites -----	Trace	Trace	0.001	0.625	Trace
Chlorine -----	7.0	12.0	11.0	11.0	9.0
Hardness -----	38.0	73.0	59.0	30.0	42.0
Acidity (phenol) ---	10.0	18.0	24.0	14.0	10.0
Iron -----	0.30	0	0.20	0	Trace
B.Coli-Cresumptive --	4/5	0/5	0/5	0/5	0/5
B. Coli -----	0/5	0/0	0/0	0/0	0/0

These figures represent a copy as obtained from the water and sewage laboratories at the State Department of Health at Augusta.

Aqueduct Company No. 1 represents the water analysis of the Skowhegan Water Company. The report shows the presence of intestinal bacteria of a non-foecal type but none of the foecal type were found. The other tests are within the normal accepted limits. The chlorine content is high but this seems to run fairly constant with all waters in this section of the country as there is some lime-stone in the community.

Aqueduct Company No. 2 represents the water analysis for the West Skowhegan Aqueduct Company and shows evidence of past pollution by the high nitrate content and although there were no bacteria found the water should be constantly tested for if pollution has occurred in the past it is possible for it to occur again.

Aqueduct Company No. 3 represents the water analysis for the Skowhegan Aqueduct Company and shows evidence of both recent and past pollution by the high nitrite and nitrate contents as shown in the chemical analysis. No intestinal bacteria were found in the sample.

Aqueduct Company No. 4 is for the Coburn Aqueduct Company shows evidence of recent pollution by the very high nitrite content and should be ordered boiled until the underlying condition is found and remedied. There were no bacteria of an intestinal nature found however. The water company could be held responsible for diseases among its customers if of a water born nature.

The last analysis is of the Central Aqueduct Company and shows evidences of past pollution by the high nitrate content. Otherwise it is within the normal limits.

The last examination of the Norton Aqueduct Company was in August 1922 and showed the water to contain a definite evidence of a heavy pollution by animal or humal organic material in the past. There was no evidence of recent pollution but the fact that a contamination had occurred in considerable amount some time ago puts the water under suspicion because of the fact that it is possible for it to occur again. It should be further remembered that this company is still using a lead main.

The examination of the Merrill Aqueduct Company at the same time showed that the water was in good condition and suitable for all purposes.

It is instructive in interpreting these various reports of the chemical and bacteriological examinations, to note that in August, September, October, and November of 1922 there were many water analyses done on these various water companies, and the constant fact was found that after a heavy rain fall all the water companies showed evidences of recent pollution in their water mains, by the high nitrite contents and many showed B. Coli of the faecal type to exist in varying numbers.

It is there for evident that at times of the year when the ground is saturated with water and when such surface water is present, most all of the water companies are potential factors in starting a water borne epidemic. For this reason it would seem logical and wise, for the community at large to establish a water supply that would be protected from any such possibilities, and I feel sure that this would be possible without the outlay of too much expence considering the protection it would afford. It would be first necessary to arouse public sentiment for this has been tried in the past only to meet with much opposition on the part of the owners of the various water aqueduct companies.

In interpreting these analyses the following figures were taken as the maximum allowable :

Free ammonia -----	0.030
Nitrogen Ammonia NH ₃ -----	0.350
Nitrogen as nitrites -----	0 to trace.
Nitrogen as nitrates -----	1.60
B. Coli (faecal type) -----	none.

REFUSE, GARBAGE, and ASHES.

REFUSE, GARBAGE and ASHES.

In 1922 the town appropriated \$374.94 as a grand total for the removal of all garbage refuse and ashes. There is no provision for the collection of garbage. each family must, of necessity, solve the question of the disposal of its garbage. This for the most part is accomplished by burning it. There are many families who save their garbage to be collected periodically by the owners of swine. This is not done on a large scale as there are no large piggeries in the town.

The collection of refuse, during the summer is paid for by the town and is carried out once a week. The people carry their refuse to the street on the day of collection and this is carted off to the town dump. Ashes are collected in a similar manner. The collection is only carried out in the summer. In addition to this procedure, the town's people have the privilege of dumping refuse at any time at the dump.

The dumping ground for all collections is located on the northern edge of the town in a small ravine covering approximately 2 acres of land. This space is hired by the town at the annual cost of \$150.00. The public dump is pictured below.



The Health Officer has posted a sign at the entrance to the dump forbidding all persons against the dumping of perishable goods here. This sign apparently is of little use, for on September 10, 1923 at 10 A.M. when the dump was visited, there had been a disposal of a large number of salt fish, which were then in various stages of putrefaction. This sign is below.



There are a number of private dwellings within the radius of $1/4$ of a mile of the dump, and with the proper wind conditions a most disagreeable odor would be possible. This condition should be changed, for such a place is an excellent incubator^{for} flies.

CRITICISM

In criticising the condition and methods now in use, the average expenditure in maintaining the dump ~~is~~ figured approximately \$0.06 per person, taking the population as given in the last census as 5981 against the total expenditure of \$374.39 for the year 1922. To me this seems too meager an amount and it must not be forgotten that this expenditure only covers a period of at the most of eight months a year.

I would strongly recommend the establishment of a yearly collection of rubbish to be deposited at a greater distance from any private dwelling.

I would advise the burning of all materials as soon as they arrive at the dump. This would, in a measure, destroy all organic matter, reduce the yearly accumulation, tend somewhat to limit the dump as a breeding place for flies, which are without question a carrier of disease, and greatly reduce the odor.

In a town the size and valuation of Skowhegan, the question of an elaborate and expensive incinerator plant is out of the question at least for the present. Furthermore all employees of the town having any thing to do with the collection and disposal of refuse, garbage and ashes, should be held responsible for the proper policing of the dump. In this way the total space hired would be more efficiently used.



MAP OF SHOWHEGAN MAINE
SHOWING SEWER SYSTEM
IN GREEN.

SEWAGE

From a sanitary point of view, the sewage system of Skowhegan is abominable. There is no one map that contains a detailed plan of the entire system, and many times when a family wishes to be connected to the sewer, the engineers and plumbers must of necessity seek out some one of the older inhabitants to get his knowledge as to where they had best start excavating to uncover a sewer main. This condition causes an undue expenditure of time and money for all concerned.

The method of collection is entirely by gravity, a system of pipes has been laid which drain directly into the river. This system does not connect into one main unit but dumps into the river in many different places. There is no attempt at sterilization of the sewage, it leaves the different homes and buildings and starts on its uninterrupted journey to the sea.

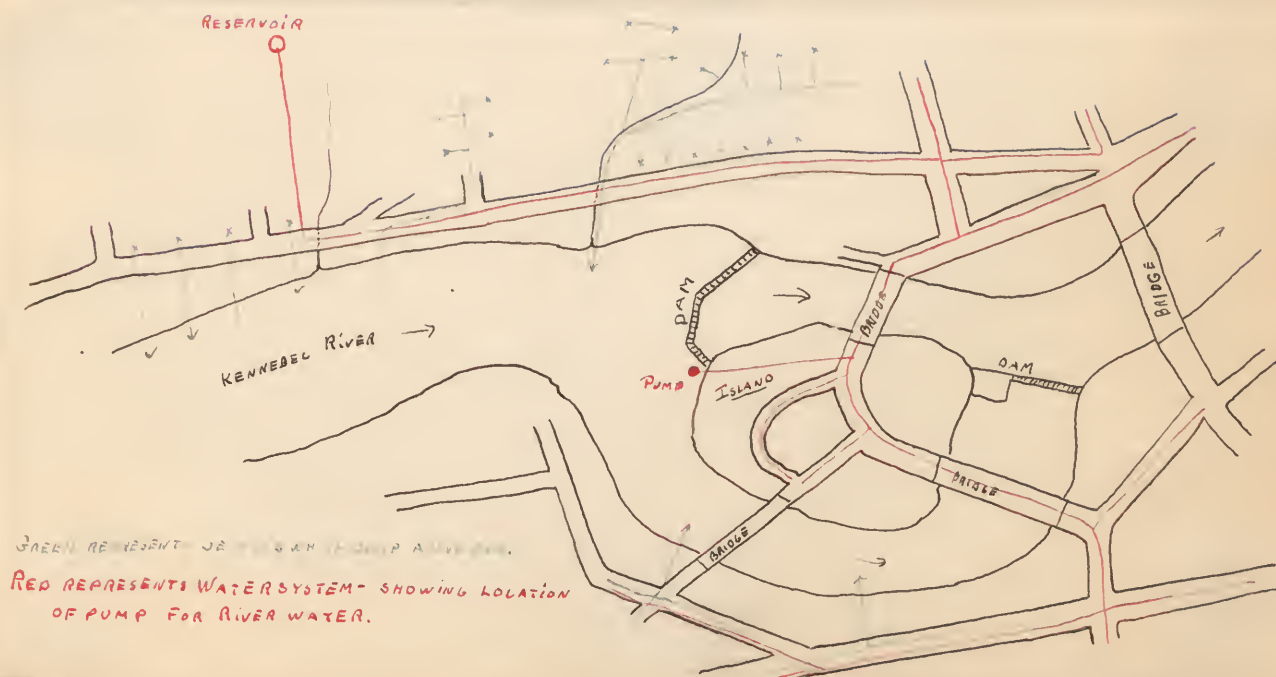
This system is owned and controlled by the town thru the medium of the select men and road commissioner. Up to the 12th of March, 1923, no one was compelled to connect with the sewer system. Article 54 of the Warrant for the Annual Town Meeting was passed and is as follows: " To see if the town will vote to instruct its selectmen to compel all persons whose property abutts town sewers to connect with the same and pass all votes respecting the same." This was a decided step in advance and was most probably the direct result of a sanitary survey of some of the water sheds of private owned water companies which supply "spring" water for drinking purposes.

As near as can be made out the sewer system at present only supplies about 80% of the population. A considerable number of those remaining, particularly along the river bank have their own private sewers which dump into the river. The remainder of the families must of necessity resort to earth closets, cisterns, and not a few have pipes laid that dump into some

of the brooks, eventually finding their way to the river. The latter condition is the cause of many complaints to the local Health Officer.

The relation of this system to the health of this and other towns has but one answer and that is that it is a constant source of danger as long as it exists under its present condition. It is always to be considered as an explanation of any water born epidemic that might break out, for as was explained in the chapter on water, the drinking water of the town for some families comes from the river at any time that the other source is inadequate.

Approximately $1/3$ of the sewage disposal of the town is above the dam in the river, which is situated in the central part of the town, and during the summer when the reservoir for the Skowhegan Water Co., is low, the only other available source of drinking water is from the river. The main for the Skowhegan Water Co. at such times of the year as described above is located just above the dam. The following diagram clearly and vividly portrays the interpretation of the possibilities, notwithstanding the fact that the water which is taken from the river is chlorinated and a notice to that effect always appears in the weekly paper.



Two years ago the Central Maine Power Co. constructed a new concrete dam and power plant at Skowhegan at the cost of about one and one-half millions of dollars. This new dam raised the water level some five to six feet above that previously existing. This procedure consequently interfered with the drainage of many of the sewers. This fact is particularly noticable in the spring when the water level is raised by the ^{melting} of the snow and ice together with the spring rains.

There is much that can be said in the way of a criticism of such a sewer system as was found to exist in Skowhegan. With the present high tax rate a modern and entirely new system is out of the question, but in my mind much could be done to improve the present conditions. I would strongly advise the following:

- (1) That article 54 of the Town Warrent be rigidly enforced,
- (2) That those sewers which empty into brooks and creeks be abolished and the parties concerned be connected to the nearest sewer main.
- (3) That all sewage be so collected and disposed of so as not to dump into the river above the dam,
- (4) That all sewer mains emptying into the river be submerged below the lowest water level,
- (5) That sewer mains be laid within reach of all houses not now connected, and,
- (6) That as soon as the town can afford a modern sewage system the same shall be installed.

VITAL STATISTICS

VITAL STATISTICS.

As was said in a previous chapter of this report, the town clerk has the duty of recording the births, deaths and marriages, for which duty he is paid by fees. In his office there are books where the deaths, births and marriages are entered as they occur. It is also part of his duty to fill out certain blank forms supplied by the state for the purpose of sending the same to Augusta where they are analyzed. There is no attempt made in Skowhegan to keep the vital statistics in any useful form, and any person desirous of obtaining data must either analyse the books himself, a tremendous undertaking, or write for such information from Augusta, which in the writer's experience was likewise met with much delay.

(a) The death rate for the town is given below:

(deaths per 1000 inhabitants)

All causes:---	1922	---	1921	---	1920	---	1919	---	1918	---
	18.17	--	19.52	--	19.55	--	17.14	--	23.76	--

(b) Infant mortality. ratio of deaths to births

1922	---	1921	---	1920	---	1919	---	1918	---
0.070		0.160		0.1770		0		0	

(c) Specific rates for:

Typhoid	-----	0.67	---	0	---	0.17	---	0.17	---	0.50	---
Tuberculosis	-	0.17	---	0	---	0.67	---	0.84	---	1.00	---
	(pul.)										
Measles	-----	0	---	0	---	0	---	0	---	0	---
Scarlet fever-	C	---	0	---	0	---	0	---	0	---	---

The morbidity for these diseases is given below:

(cases per 1,000 inhabitants)

Year	1922 ---	1921 ---	1920 ---	1919 ---	1918 ---
Typhoid	- 1.68 ---	0.67 ---	1.00 ---	0.00 ---	0.00 ---
Tuberculosis (pul)	- 0.00 ---	0.50 ---	0.84 ---	0.34 ---	0.00 ---
Measles	- 0.00 ---	51.16 ---	16.39 ---	0.00 ---	0.00 ---
Scarlet fever	- 0.34 ---	16.39 ---	4.01 ---	0.00 ---	0.00 ---

(d) Samples of blanks used by the town clerk for the purpose of compiling vital statistics are given below:

STATE OF MAINE

CERTIFICATE OF BIRTH

Child's Name Alice

Date of Birth September 2, 1923

Place of Birth. Skowhegan, Maine.

Street..... Winter Street..... No. 12.....

Sex* F. Color W.

Living or Stillborn Living

No. of Child, 1st, 2nd, etc....1st.....

Legitimate or Illegitimate. Legitimate

Father's Name.....Ralph Brown.....

" Birthplace Skowhegan Color W.

Residence

Street. Winter Street No. 12

Father's Occupation Blacksmith

Mother's Maiden Name. Louise Smith

Color W. . . .

Mother's Birthplace Madison, Maine.

Mother's Occupation Housewife

Arthur H. McQuillan M. D.

Maine, Sept. 9 1923

*Use Initial for Sex, Color, etc.

See Sections 18, 19 and 26 of Chapter 64, R. S.

CERTIFICATE OF DEATH

Name...Walter White.....
Place of Death...Skowhegan, Maine.....
No..34..Hanover..Street.....
Ward.....VillageSkowhegan.....
How long a resident...10 years.....
Previous residence..Brookline, Mass.....
Date of Death: Year1923...MonthSept...Day9.....
Age: Years...63.....Months8.....Days8.....
Place of Birth.....Brookline Mass.....
Date of Birth: YearJan...Month1...Day1.....
SexM...ColorW.....Married, Single }
Widowed or } W.....
Divorced. }
Occupation...Barber.....
Name of Father..Philip.....
Maiden Name of Mother..Mary.....
Birthplace of Father...Louisiana...Ga.....
Birthplace of Mother...England.....
Occupation of Father..Merchant.....
Deceased was wife of...Mary Louise.....
Widow of.....

(Over)

Cause of Death..~~SCOWHEGAN~~..~~SCOWHEGAN~~.....
.....Duration.....Two weeks
Contributing Cause..~~Branchitis~~.....
.....Duration.....One week
Where was disease contracted, if not at place of death?
.....
If death was in a hospital, or other institution, give its
name.....
How long an inmate.. ..
Where from.....

MEDICAL CERTIFICATE OF CAUSE OF DEATH

I hereby certify this....9....day of..Sept.....
19.23, that the foregoing statement of the cause of
death is correct to the best of my knowledge and belief.

.....Arthur H. Mc Quillan.....M. D.
(Signature of Physician)

AddressSkowhegan, Maine.....

Place of Burial ..North Cemetary.....


Date,.....September.....12.....19.23.....

Name of Cemetery..North Cemetary..Skowhegan.....

.....William Lord.....
(Signature of Undertaker)

Address..14..Turner..Ave.,..Skowhegan..Maine.....

CERTIFICATE OF MARRIAGE

 The laws of Maine provide for a fine not exceeding one thousand dollars or imprisonment not exceeding five years to be the punishment of any clergyman or other person, who shall solemnize a marriage within this state unless authorized to solemnize marriage therein.

No.

1. Full name of *Groom*
2. Place of Residence
3. Age 4. Color* 5. Occupation
6. Birthplace
7. Number of Marriage 8. Single, Widowed or Divorced
9. Father's Name
10. Last Residence
11. Color 12. Occupation
13. Birthplace
14. Mother's Maiden Name
15. Last Residence
16. Color 17. Occupation
18. Birthplace
19. Full name of *Bride*
20. Place of Residence
21. Age 22. Color 23. Occupation
24. Birthplace
25. Number of Marriage 26. Single, Widowed or Divorced
27. Father's Name
28. Last Residence
29. Color 30. Occupation
31. Birthplace
32. Mother's Maiden Name
33. Last Residence
34. Color 35. Occupation
36. Birthplace

Town Clerk's Office, Town of 19

The Intentions of Marriage between the parties above named were duly entered in this office, on the day of A. D. 19
and by me recorded according to law.

..... Clerk of

The parties above named were joined in marriage at
by me, this day of A. D. 19

..... Clergyman or Justice of the Peace.

Date of my Commission

Residence

*If other than White, (A) African. (M) Mulatto. (I) Indian. If of other races specify what. (Be very particular to fill all blanks. See other side of this page.)

SPECIAL NOTICE

This Certificate of the Clerk must be presented to the person who is to solemnize the marriage, before the ceremony is performed.

Every person authorized to unite persons in marriage shall make a record of every marriage solemnized by him, in the manner prescribed by law, and within *six days* thereafter he shall deliver or forward to the Clerk of each town or city in which the marriage intention was recorded a copy of such record of marriage.

A similar return must also be made to the Clerk of the town or city in which the marriage was solemnized.

A penalty of not more than *one hundred* dollars is incurred for violation of these provisions.

Chapter 64, Revised Statutes.

The following are forms that are filled out by the town clerk and forwarded to Augusta:

Form E-3

RECORD OF A DEATH

Place of Death.....

StreetNo.....

Name.....

How long a resident.....

Previous residence.....

Sex..... Color..... Married, Single,
Widowed
or Divorced

Deceased was husband of.....

“ “ wife of

Date of Birth: Year.....Month.....Day.....

Age: Years..... Months.....Days.....

Occupation

Place of Birth.....

Name of Father.....

Birthplace of Father.....

Occupation of Father.....

Maiden Name of Mother.....

Birthplace of Mother.....

Name of Informant.....

Date of Death: Year.....Month.....Day.....

Cause of Death.....

.....

.....

..... Duration

Contributing cause

..... Duration

Where was disease contracted, if not at place of death?

.....

If death was in a hospital, or other institution, give its

name

Did an operation precede death? Date of.....

Was there an autopsy?.....

Name of Physician (or other person) reporting said
death,

P. O. Address.....

Place of Burial.....

Date of Burial.....

Name of Cemetery.....

Undertaker

P. O. Address.....

Date when received by Town Clerk

State of Maine

I hereby certify that the above death record is
correct to the best of my knowledge and belief.

.....

Clerk of.....

RECORD OF A MARRIAGE

Groom

Bride

Residence of Groom

“ Bride

Age of Groom

“ Bride

Color of Groom

“ Bride

Occupation of Groom

“ Bride

Birthplace of Groom

“ Bride

No. of Marriage of Groom

“ Bride

Groom Widowed or Divorced

Bride “ “ “

Intention Filed

By whom Married

Residence

Official Station*

Date of Marriage

Place

*Clergyman, Justice of the Peace, etc.

(Record continued over.)

(Record Continued)

GROOM'S FATHER AND MOTHER

Father's Name.....

“ Residence

“ Color

“ Occupation

“ Birthplace

Mother's Name

“ Residence.....

“ Color

“ Occupation

“ Birthplace

BRIDE'S FATHER AND MOTHER

Father's Name.....

“ Residence

“ Color

“ Occupation

“ Birthplace

Mother's Name

“ Residence.....

“ Color

“ Occupation

“ Birthplace

State of Maine

I hereby certify that the above marriage record is
correct to the best of my knowledge and belief.

.....
Clerk of.....

RECORD OF A BIRTH

Child's Name.....

Date of Birth.....

Place of Birth.....

Street..... No.....

Sex..... Color.....

Living or Stillborn.....

No. of Child, 1st, 2nd, etc.....

Legitimate or Illegitimate

Father's Name.....

“ Birthplace..... Color.....

“ Residence

Street..... No.....

Father's Occupation.....

Mother's Maiden Name.....

..... Color.....

Mother's Birthplace

“ Occupation

Name and address of Physieian (or other person)
reporting said birth.

.....
Date when received by Town Clerk.....
=====

State of Maine

I hereby certify that the above birth record is correct
to the best of my knowledge and belief.

.....
Clerk of.....

The following are samples of forms used by the department of health for the reporting of notifiable diseases:

The following are samples of forms used by the department of health for the reporting of notifiable diseases:

(Form 301)

**Investigation of
Acute Contagious Disease**

1. Date of investigation.....
2. Place.....
3. Street and No.....
4. Householder.....
5. Patient.....
6. Sex.....Age.....
7. Measles?.....Scarlet Fever?.... Rubella?....
8. Sources of infection.....
9. Date of exposure.....

PRODROMAL SYMPTOMS :

10. Illness began.....
11. Period of invasion.....
12. Onset, abrupt or gradual.....
13. Nausea or vomiting.....
14. Prostration.....
15. Headache.....
16. Coryzal or bronchial symptoms.....
17. Throat.....

18. Temperature.....
19. Duration of fever.....
20. Others.....

ERUPTION

21. When appeared.....
22. Where first.....
23. Extent of eruption.....
24. Where most intense.....
25. Length of eruptive stage.....
26. Duration of eruption.....
27. Diffused punctate or blotchy.....
28. Pressure or streaking.....
29. Circumoral pallor.....

ACCESSORY SIGNS

30. Tongue.....
31. Buccal eruption.....
32. Glands.....
33. Nasal complications.....
34. Aural complication.....
35. Exudates or pseudomenbrane.....
36. Desquamation.....
37. Albuminuria.....

REPORT OF CASES OF INFECTIOUS DISEASES

In the City or Town of.....

Send or mail promptly to Local Health Officer

Maximum penalty for failure to report \$50.00

[illegible]

Name of householder where these persons are

If at place where milk or any other dairy products are prepared or kept for sale, report plainly names and places.....

School attended by children from these houses.

Source of infection.

Name of person reporting

P. O. Address and date.

(Over

Form 7

To the

Th

of.....

ending

Anth
Chick
Dipht
Dyser
Encep
Germ
Glanc
Influ
Meas
Meni
Mum
Parat
Pella
Pneu
Polio
Rabi
Searl
Septi
Smal
Teta

Tuberculosis.

Typhoid Fever

Vincent's Angina

Whooping Cough

*Other notifiable diseases on back of this blank.

Local Health Officer.

Post Office Address

Date _____

(over)

FURTHER DATA

38. Adults in household: Males.....
Females... ..

39. Children in household: Males.....
Females.....

40. Which immune.....

.....

.....

.....

.....

41. What schools.....

.....

.....

42. Sunday school, etc....

43. Places of occupation....

.....

.....

44. What probable exposures.....

.....

.....

.....

.....

.....

45. Diagnosis.....

(Form 301)

**Investigation of
Acute Contagious Disease**

1. Date of investigation.....

2. Place.....

3. Street and No.....

4. Householder.....

5. Patient.....

6. Sex.....Age.....

7. Measles?.....Scarlet Fever?....Rubella?....

8. Sources of infection.....

9. Date of exposure.....

Weekly Report of Local Health Officer

To the State Department of Health, Augusta, Maine:

The following is a report of all known cases of the infectious or notifiable diseases in the town of _____ State of Maine, during and at the close of the week ending Saturday, _____ 19_____.

*Names of Diseases	Number Sick at last report	During the week, number			Number sick at close of week	Number of cases this outbreak
		Taken sick	Recovered	Died		
Anthrax						
Chickenpox						
Diphtheria						
Dysentery.....						
Encephalitis, epidemic.....						
German Measles						
Glanders						
Influenza						
Measles.....						
Meningitis, cerebrospinal.....						
Mumps.....						
Paratyphoid Fever						
Pellagra						
Pneumonia						
Poliomyelitis						
Rabies.....						
Scarlet Fever.....						
Septic Sore Throat.....						
Smallpox						
Tetanus						
Tuberculosis.....						
Typhoid Fever						
Vincent's Angina.....						
Whooping Cough						
.....						
.....						

*Other notifiable diseases on back of this blank.

Local Health Officer.

Post Office Address

Date

(Over)

Physicians and householders are required by law to report to the local health officer all cases of the following diseases, with the exception of those marked with a star:

Actinomycosis	Mumps
Anthrax	Paratyphoid Fever
*Chancroid	Plague
Chickenpox	Pellagra
Cholera, Asiatic	Pneumonia
Conjunctivitis, acute infectious, not due to the Gonococcus	Poliomyelitis (acute infectious)
Dengue	Rabies
Diphtheria (membranous croup)	Rocky Mt. Spotted Fever (tick fever)
Dysentery	Scarlet Fever
(a) amebic	Septic Sore Throat, epidemic sore throat
(b) bacillary	Smallpox
Encephalitis, epidemic	*Syphilis
Favus	Tetanus
German Measles	Trachoma
Glanders	Trichinosis
*Gonococcus Infection	Tuberculosis, all forms
Including Ophthalmia	Typhoid Fever
Neonatorum	Typhus Fever
Hookworm Disease	Vincent's Angina
Influenza (Grippe)	Whooping Cough
Leprosy	Yellow Fever
Malaria	
Measles	
Meningitis	
(a) cerebrospinal	
(b) tuberculous	

Industrial Diseases and those marked with a star in the above list, must be reported direct to the State Department of Health, using the special report blanks which are supplied by the department for that purpose. **Tuberculosis must be reported on Form 202.**

The notifiable diseases not included on the front of this blank are: Actinomycosis; Asiatic cholera; chan-
croid* conjunctivitis, acute infectious, not due to the
gonococcus; dengue; favus; gonococcus infection*, including
ophthalmia neonatorum; hookworm disease; leprosy; mala-
ria; plague; Rocky Mt. spotted fever; syphilis*; trachoma;
trichinosis; typhus fever; yellow fever.

The industrial diseases and the three marked with a
star in the preceding paragraph must be reported direct
to the State Department of Health, using the special
report blanks which are supplied by the department for
that purpose.

Tuberculosis should be reported by the physician on
Form 202.

The local health Officer or the secretary of each local
board of health in Maine is requested to forward a report
to the State Department of Health, Augusta, Maine,
promptly on the occurrence of an outbreak of any of the
notifiable diseases and thereafter at the close of each week
during any portion of which a case of any of these diseases
has been present within his jurisdiction.

In filling in the columns under "During the Week,
Number," remember dates are not wanted, but merely
the figures indicating the number taken sick, recovered or
who have died within the week.

If you need any of the blanks, circulars or other printed
matter issued by the State Department of Health, please
fill in on the blank lines the form-number and the number
of each you want.

.....Copies of Form.....
..... " " "
..... " " "

(e) Under the present system of reporting births, deaths, and marriages to the town clerk, I believe that this work is well done, but I am not in agreement with the system. I think that these statistics should be reported to the local health officer who should analyse them himself and keep such records as would be of a benefit to any one wishing to compare the mortality of a certain disease from year to year. In this way a community will easily know whether it is making progress or not from year to year.

As to the figures on morbidity and mortality for the town for the past five years, they are useless and only serve to take up space in the records of the department of vital statistics at Augusta. In explanation of this I will say that comparing the morbidity and mortality for tuberculosis alone it will be seen that the figures can only be interpreted as inaccurate. For example in 1922 the mortality rate for pulmonary tuberculosis in deaths per 1000 inhabitants is given as 0.17 while the morbidity rate figured the same way was zero. In 1918 the morbidity rate was 1.00 per 1000 inhabitants or about 6 deaths while no one case was reported as having tuberculosis before he died of the disease. The only interpretation I can give for this is that the discrepancy must be due to negligence on the part of the local physicians. The same may be said for the figures on typhoid fever shown on the preceding pages of this chapter. It seems to me that with a full time health officer in the town this important work could be carried out so that the figures would be useful and considerably more accurate.

MILK

MILK

There are no less than ten different milk dairies that supply milk daily to the town of Skowhegan. These dairies average from five to thirty milch cows each. The milk routes are as varied as there are dairies. In addition to this there are many families, scattered here and there, which have their own private milch cows, thus producing their own milk supply and in many cases providing their neighbors with milk. These latter are potentially dairies although they do not come under inspection and are not licensed. With this situation understood, the writer was at a loss of how to begin to make a satisfactory investigation of the milk supply for the town. It was finally decided to pick out as near an average dairy as possible, considering size and equipment.

The milk farm chosen is located about four miles from the center of the town. The owner is an American farmer about thirty five years of age. He has always been a farmer, and at the present time is engaged in paying off a mortgage on his farm. All of these facts have some bearing on the conditions found.

The farm consists of about 200 acres of land, being divided up into wood lot, pasturage, tillage and space for the buildings. There are about twenty acres that are used for the production of hay, grain, and corn for a silo. The farm buildings consist of a story and a half house, an ell which is used as a wood shed, a part of this adjacent to the kitchen is finished off into a dairy, and a barn and silo. There are additional sheds used for the storing of farm machinery, ect. With this explanation, we can understand something of the financial burden of this combined farmer and milk dealer. The owner is very anxious to conform to all of the requirements and suggestions of the milk inspector, but with this

burden, the improvements are necessarily slow and some impossible at least for the present, yet he continues to sell his product daily. I believe that similar circumstances can be applied to nearly every dairy suppling the town.

The hurd consists of nine milch cows, part jerseys and part gurnseys. The cows are tuberculin tested once a year, and one reactor was found last year and properly disposed of. These nine appeared to be in good health.

The barn is located about 75 feet from the house and dairy. One side of the barn is given over to a tie-up for the cattle and to stalls for the horses. The tie-up is new and recently white washed. There is no complete partition between the horses and cattle. A small piggery is located in the cellar of the barn, and the manure is shoveled out into the barn yard from where it is carted off to the fields twice to three times a year.

The milk room is large enough for the present needs. It is new and clean. It contains a cream separator and a reffridgerator, which is a water tight box affair, into which the milk is stored in coolers, by being submerged in ice-water. The room is electrically lighted, has one window which is well screened, and one door which is also well screened. The utensills used are washed in the kitchen, sterilized by boiling water and then stored in the dairy until used. The water used in the house hold comes from a spring about 1/8 of a mile away from the house. It is pumped to the house by electricity. There are no milking suits used and no covered pails.

The milk is removed from the barn immediately and is separated, strained, and cooled. Cream is the only product sold by this farmer. From 50 to 60 pounds of cream are carried every other day to the town where it is distributed to his customers. The cream is transported in an iced container but not in individual bottles. The amount that his customers take from day to day varies and so the amount purchased is measured out at the time of sale.

The farm was visited and scored by the writer on September 12, 1923. The score card is shown below.

Score Card

Name of Farm: _____

County: _____

State: _____

Scored by: _____

Date: _____

Item	Score	Remarks
1. General Appearance	85	Well kept, clean
2. Buildings	75	Good condition
3. Equipment	65	Complete
4. Hygiene	90	Excellent
5. Management	70	Good
6. Production	80	Good
7. Health	85	Good
8. Labor	75	Good
9. Marketing	65	Good
10. Total	750	

Dairy Inspection of Boston's Milk Supply.

Name Maurie A. Malbon
 Town of Sikowhegan State of Maine Dairy No. 5
 Milk being delivered by S. Amos
 to Customers in Sikowhegan for shipment to Boston, Mass.
 Date of inspection Sept 12, 1923 time 1:30 P.M.
 Was milking or handling milk being carried on at time of inspection no
 Delivered at station no R.R. no time no A. P. M.
 What milk is shipped { Night of day of shipment
 Morning of day of shipment } Do you receive other milk at any time, if so from
 Night of day before shipment } whom. no
 Morning of day before shipment }
 No. of cows 9 No. milking 9 Amount produced 50-60 lbs. a trip
 Are udders free from disease yes
 Does stable need whitewashing no Is ventilation effective no
 Are pigs kept in stable no or a source of offence yes Is ice supply adequate yes
 Is milk room satisfactorily located yes Method of cooling milk in tanks
 Danger of contamination no
 Source of water supply S. pump
 Is it likely to be contaminated, and how no
 Are privy vaults protected against flies yes Are they so located as not to be a source of danger yes
 Are there infectious diseases among milk handlers or their families no
 Date and nature of last case
 Remarks Partition boxes from cows. Remove manure
50 feet from stable. Remove pigs 50 feet from stable

SCORE CARD—APPROVED BY U. S. BUREAU OF ANIMAL INDUSTRY.

EQUIPMENT	SCORE		METHODS	SCORE	
	Perfect	Allowed		Perfect	Allowed
COWS.					
Health.....	6	5	Clean.....	8	7
Apparently in good health... 1			(Free from visible dirt, 6.)		
If tested with tuberculin within a year and no tuberculosis is found, or if tested within six months and all reacting animals removed... 5	5		STABLES.		
(If tested within a year and reacting animals are found and removed, 3.)			Cleanliness of stables.....	6	3
Food (clean and wholesome).....	1	1	Floor.....	2	1.5
Water (clean and fresh).....	1	1	Walls.....	1	.5
			Ceiling and ledges.....	1	.5
			Mangers and partitions.....	1	.5
			Windows.....	1	.5
			Stable air at milking time.....	5	2.5
			Freedom from dust.....	3	1.5
			Freedom from odors.....	2	1
			Cleanliness of bedding.....	2	1.5
			Barnyard.....	1	
			Clean.....	1	.5
			Well drained.....	1	
			Removal of manure daily to 50 feet from stable or properly stored..	2	0
MILE ROOM OR MILK HOUSE.					
			Cleanliness of milk room.....	3	3
UTENSILS AND MILKING.					
			Care and cleanliness of utensils..	8	6
			Thoroughly washed.....	2	
			Sterilized in steam for 15 minutes.....	2	
			(Placed over steam jet, or scalded with boiling water, 2.)	3	
			Protected from contamination.....	3	2
			Cleanliness of milking.....	1.5	2.5
			Clean, dry hands.....	3	
			Udders washed and wiped.....	6	1
			(Udders cleaned with moist cloth, 4; cleaned with dry cloth or brush at least 15 minutes before milking, 1.)		
HANDLING THE MILK.					
			Cleanliness of attendants in milk room.....	2	1
			Milk removed immediately from stable without pouring from pail.	2	1
			Cooled immediately after milking each cow.....	2	0
			Cooled below 50° F.....	5	5
			(51° to 55°, 4; 56° to 60°, 2.)		3
			Stored below 50° F.....	3	
			(51° to 55°, 2; 56° to 60°, 1.)		2
			Transportation below 50° F.....	2	
			(51° to 55°, 1.5; 56° to 60°, 1.)		
			(If delivered twice a day, allow perfect score for storage and transportation.)		
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
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Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
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Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5	1			
Facilities for steam.....	5	1			
(Hot water, 0.5.)					
Total.....	25.3	40			
MILK ROOM OR MILK HOUSE.					
Location: Free from contaminating surroundings.....	1	1	Read your score card carefully and improve where points are low.		
Construction of milk room.....	2	2			
Floor, walls, and ceiling.....	1				
Light, ventilation, screens.....	1				
Separate rooms for washing utensils and handling milk.....	5				

Read your score card carefully and improve where points are low.

Equipment 25.3 + Methods 37.5 = 62.8 Final Score.
 Note 1.—If any exceptionally filthy condition is found, particularly dirty utensils, the total score may be further limited.
 Note 2.—If the water is exposed to dangerous contamination, or there is evidence of the presence of a dangerous disease in animals or attendants, the score shall be 0.
 Inspection made in my presence—date Sept 12, 1923 Hour 2:30 P.M.
Maurie A. Malbon Producer.
Arthur V. McQuillan Inspector.

It is interesting to compare the result of the writers visit with that of H.S. Robinson of the Boston Health Department that was made by him about a year before. As will be seen some of his recommendations were acted upon and Mr. Malbon is anxious to conform to all of them as soon as he is financially able. The report of Mr. Robinson is given below.

HEALTH DEPARTMENT BOSTON, MASS.

Dairy Inspection of Boston's Milk Supply.

Name Maurice A. Malbon
Town of Shoreham State of Vt. Dairy No.
Milk being delivered by same
to Shoreham Dairy Creamery for shipment to Boston, Mass.
Date of inspection 9-15-12 time 9:50 A. P. M.
Was milking or handling milk being carried on at time of inspection Yes
Delivered at station Shoreham R.R. McCart time A. P. M.
[Night of day of shipment] Do you receive other milk at any time, if so from

Dairy Inspection of Boston's Milk Supply.

Name Maurice A. Malbon State Mass. Dairy No. 1015
 Town of Shoreham Milk being delivered by same
 to Shoreham for shipment to Boston, Mass.
 Date of inspection 7-5-22 time 10:00 A. P. M.
 Was milking or handling milk being carried on at time of inspection yes
 Delivered at station Shoreham R.R. McCourt time 10:00 A. P. M.

What milk is shipped { Night of day of shipment } Do you receive other milk at any time, if so from
 { Morning of day of shipment } whom.
 { Night of day before shipment }
 { Morning of day before shipment }

No. of cows 4 No. milking 4 Amount produced 40 lbs. a trip

Are udders free from disease yes

Does stable need whitewashing yes Is ventilation effective no

Are pigs kept in stable no or a source of offence no Is ice supply adequate yes

Is milk room satisfactorily located yes Method of cooling milk spring

Danger of contamination spring

Source of water supply spring

Is it likely to be contaminated, and how no

Are privy vaults protected against flies yes Are they so located as not to be a source of danger yes

Are there infectious diseases among milk handlers or their families no

Date and nature of last case Whitewash, Partition

Remarks Remove pig from cow house. Remove manure from stable. Provide a suitable milk room.

SCORE CARD—APPROVED BY U. S. BUREAU OF ANIMAL INDUSTRY.

EQUIPMENT	SCORE		METHODS	SCORE		
	Perfect	Allowed		Perfect	Allowed	
COWS.						
Health.....	6		Clean.....	8		
Apparently in good health... 1			(Free from visible dirt, 6.)			
If tested with tuberculin within a year and no tuberculosis is found, or if tested within six months and all reacting animals removed... 5			STABLES.			
(If tested within a year and reacting animals are found and removed, 3.)			Cleanliness of stables.....	6	2.5	
Food (clean and wholesome)..... 1			Floor.....	2		
Water (clean and fresh)..... 1			Walls.....	1		
			Ceiling and ledges.....	1		
			Mangers and partitions.....	1		
			Windows.....	1		
			Stable air at milking time.....	5	2.2	
			Freedom from dust.....	3		
			Freedom from odors.....	2		
			Cleanliness of bedding.....	1		
			Barnyard.....	2		
			Clean.....			
			Well drained.....			
			Removal of manure daily to 50 feet from stable or properly stored..	2		
			MILK ROOM OR MILK HOUSE.			
			Cleanliness of milk room.....	3		
			UTENSILS AND MILKING.			
			Care and cleanliness of utensils..	8		
			Thoroughly washed.....	2		
			Sterilized in steam for 15 minutes.....	3		
			(Placed over steam jet, or scalded with boiling water, 2.)			
			Protected from contamination	3		
			Cleanliness of milking.....	9	2.5	
			Clean, dry hands.....	3		
			Udders washed and wiped....	6		
			(Udders cleaned with moist cloth, 4; cleaned with dry cloth or brush at least 15 minutes before milking, 1.)			
			HANDLING THE MILK.			
			Cleanliness of attendants in milk room.....	2		
			Milk removed immediately from stable without pouring from pail.	2		
			Cooled immediately after milking each cow.....	2		
			Cooled below 50° F.....	5		
			(51° to 55°, 4; 56° to 60°, 2.)			
			Stored below 50° F.....	3		
			(51° to 55°, 2; 56° to 60°, 1.)			
			Transportation below 50° F.....	2		
			(51° to 55°, 1.5; 56° to 60°, 1.)			
			(If delivered twice a day, allow perfect score for storage and transportation.)			
MILK ROOM OR MILK HOUSE.						
Location: Free from contaminating surroundings.....	1		Read your score card carefully and improve where points are low.			
Construction of milk room.....	2					
Floor, walls, and ceiling.....	1					
Light, ventilation, screens.....	1					
Separate rooms for washing utensils and handling milk.....	1					
Facilities for steam.....	1					
(Hot water, 0.5)						
Total.....	40	16.4	Total.....	60	30.8	

Equipment..... + Methods..... = Final Score.

NOTE 1.—If any exceptionally filthy condition is found, particularly dirty utensils, the total score may be further limited.

NOTE 2.—If the water is exposed to dangerous contamination, or there is evidence of the presence of a dangerous disease in animals or attendants, the score shall be 0.

Inspection made in my presence—date 7-5-22 hour 10:15

Maurice A. Malbon Producer.

K. S. Robinson Inspector.

The following is a report of Mr. Boyd, the local Milk inspector for the year ending April 1, 1923, as given to the select men of the Town of Skowhegan.

" I herewith submit my annual report for the year ending April 1, 1923.

For the past year I have worked in co-operation with the State dairy inspector. In taking samples we found quite a number that showed up slightly dirty, and on investigating we found it was due to the method of straining, which was overcome by using cotton with cheese cloth.

Mr. Barbour, State dairy inspector, and I have called on all milk men, inspected their herds also stables and dairy and found conditions very good. Nearly every man has a milk room, stables white washed, and all milk utensils are sterilized before using, also the milk is strained, cooled and bottled immediately after milking and packed in ice.

Besides the sanitary conditions found when we visited the milk men, they all agreed to have their herds tuberculin tested, and by them all agreeing to have the test, we had enough herds to get the free State test and out of very nearly 300 cows tested we had two reactors which were disposed of, leaving all herds free from the dreaded disease.

Now that all applications have to be signed by the local milk inspector, I make personal investigation before signing so that high standard may be maintained.

Yours truly,

Eldon H. Boyd. Milk Inspector. "

The following forms are explanatory of the requirements insisted on by the local milk inspector before granting a license to sell milk:

Conditions on which Lic

Licenses to sell milk or cream in the following conditions;

No milk or cream shall be sold from which shows disease of any kind.

The udder and the flanks of all milking cows shall be clean.

Barns shall be light, well ventilated and free from dirt.

Manure shall be removed from the barnyard as a source of danger to the milk, either as a rule or by special order.

M

A milk room shall be provided where the milk materials shall be kept therein nor shall it be used for any other purpose.

The milk room shall be free from cows and other animals.

Bottles, cans and all milking utensils shall be kept free from water or steam.

Flanks and udders shall be cleaned before milking.

HAI

All persons handling milk shall have no open wounds.

No milk sold shall be handled by persons suffering from fever, scarlet fever or diphtheria.

No milk shall be strained in the tie or in any other unclean vessel and stored at a temperature not over 55°.

No bloody, stringy or unnatural milk shall be sold.

Product sold in town of.....

If milk or cream is purchased, from whom?.....

Approved by.....Milk Inspector of.....

This application must be signed by the milk inspector in town where product is sold.
Send One Dollar for Each License with the Application. See Ch. 132, P. L. of 1921.

Conditions on which Licenses to Sell Milk are Granted.

Licenses to sell milk or cream in the State of Maine are issued subject to the following conditions;

COWS

No milk or cream shall be sold from a known reactor to the tuberculin test, or that show disease of any kind.

The udder and the flanks of all milch cows shall be kept clean.

STABLES

Barns shall be light, well ventilated and clean. Floors, walls and ceilings shall be tight and free from dirt.

Manure shall be removed from the barn and disposed of in such a way as not to be a source of danger to the milk, either as a breeding place for flies or otherwise.

MILK ROOM

A milk room shall be provided that is kept clean, tight and well screened; no other materials shall be kept therein nor shall it be used for any other purpose than the handling of milk.

The milk room shall be free from contaminating surroundings.

UTENSILS

Bottles, cans and all milking utensils shall be sterilized each time before using, with boiling water or steam.

Flanks and udders shall be cleaned directly before milking.

HANDLING MILK

All persons handling milk shall have their hands and clothes clean at time of milking.

No milk sold shall be handled by persons having a communicable disease such as typhoid fever, scarlet fever or diphtheria.

No milk shall be strained in the tie-up; it shall be cooled immediately after being milked and stored at a temperature not over 55°.

No bloody, stringy or unnatural milk shall be sold.

MILK DEALERS' APPLICATION CARD
For Year 1923

No.....

MAINE DEPARTMENT OF AGRICULTURE

Date.....

Dairy Division

By.....

I hereby make application to the Commissioner of Agriculture for a license to sell milk and cream from.....in compliance with Section 5, Chapter 37,
(vehicle, store or milk depot)
of the Revised Statutes; and understand that violation of any requirements of the Dairy Division pertaining to this license is sufficient cause for its revocation.

Price per qt.—Milk..... Cream.....Name.....

Amt. sold daily—Milk..... Cream..... Town.....

Product sold in town of.....

If milk or cream is purchased, from whom?.....

.....
Approved by.....Milk Inspector of.....

This application must be signed by the milk inspector in town where product is sold.
Send One Dollar for Each License with the Application. See Ch. 132, P. L. of 1921.

[illegible][illegible]

The city dairy visited was the Skowhegan Jersey Creamery and is pictured below.



The building is located near the southern edge of the town, in a small valley about 50 yards from a brook. The buildings in the immediate vicinity are private dwelling houses with the exception of a wood working mill which is situated across the street. There are no screens on the windows. The water supply comes from an artesian well which is located immediately under the structure. With one exception the houses in the immediate vicinity drain into the sewers or into the brook mentioned. One sewer system dumps into the brook above the creamery.

There is an ammonia cold storage system used for refrigeration and the temperature maintained is adequate. The attendants do not wear uniforms and there is no medical supervision of those employed. The rule followed is that when one of the employees is sick he is automatically discharged until he is well again.

Cream is the only product that is purchased by the dairy. The source of supply is from farmers in the near by country and the supply varies with the season, there being about two hundred in the winter and twice that number in the summer. The farmers bring their product to the creamery as there is no collecting truck maintained. The cream coming into the creamery is first tested for acid -- all that reacts to the acid test is stored for butter, and the non-acid is kept as cream, the whole being stored in vats after being pasteurized. The cream is then tested for fat and is pasteurized after which it is cooled to 50 degrees F. and stored in the refrigerator. The Batch system of Pasteurization is used, the cream being heated to 150 degrees F. for 50 minutes prior to cooling.

The products sold by the creamery are, cream, butter, ice-cream skim milk, butter milk and whole milk.

These products are for the most part sold out of town. Approximately 5% of the cream purchased is sold in the town under some one of the commodities mentioned above. The dairy supplies cream, butter, and ice-cream to the stores, restaurants, hotels, and soda fountains in the town. The only source of pasteurized milk in the town is from the creamery and about 30 quarts a day are sold the town's people, apparently they are not fond of this commodity. Approximately 30 gallons a day is shipped to Boston, a distance of two hundred miles. The milk must be made up from cream and skim milk. The cream and milk sold in town from the delivery cart is poured from a can at the time of purchase, none being pasteurized in individual bottles.

An idea of the amount of the cream handled can be told from the following figures:

	1923	OCT.		NOV.		DEC.
BUTTER -----	1556.0	lbs	---	1231.0	lbs	-- 2185.0 lbs.
BUTTER FAT PURCHASED ---	17203.3	"	---	14853.3	"	-- 16269.5 "
BUTTER FAT IN BUTTER ---	<u>11265.0</u>	"	---	<u>1000.0</u>	"	-- <u>1776.0</u> "
	15938.3	"	---	13853.3	"	-- 14493.5 "
BUTTER FAT IN ICE-CREAM -	532.0	"	---	76.0	"	-- 264.6 "
NET TOTAL IN CREAM ----	15406.3	"	---	13877.5	"	-- 14228.9 "
or						
Gallons 30% CREAM	6113.0		---	5506.9		-- 4743.0

	1924	JAN.
TOTAL LBS. CREAM PURCHASED -----		87, 559.4
TOTAL LBS. BUTTER FAT PURCHASED -----		18, 008.9

As was mentioned above, one of the owners of the creamery is the local milk inspector for the town, receiving his appointment from the board of select men. His report to the town stated that nearly 300 cows were tuberculin tested. This could not well have included all the milch cows that supply cream to the city dairy as there are some 400 producers bringing cream to dairy in the summer.

The milk supply for the town is tested for DIRT, FAT, SP. GR., (1028 to 1032 allowed), and SEDIMENT. This is checked up from once to twice a year. The cows are supposed to be tuberculin tested and free from disease. The milk score is 90% or over for the town. The figure allowable for a dairy score is 50%. Any dairy scoring under this score is obliged to bring his score up to that figure or forfeit his right to sell milk. A dairy is defined as one which produces and sells at least 20 quarts of milk a day.

There is no certified milk or grade A. milk in the town.

The following is a score card such as is used by the local milk inspector:

MAINE AGRICULTURAL DEPARTMENT.

SANITARY INSPECTION OF DAIRIES

Used in cooperation, by

Owner or lessee of farm.

Town

State.....

Total No. of Cows.....

No. Milking.....

Quarts produced daily.....

Product is sold at wholesale, retail. Name and address of

dealer to whom shipped.

Date of Inspection

19.....

DAIRY SCORE CARD

EQUIPMENT.	SCORE		METHODS.	SCORE.		REMARKS.	
	Perf.	All'd.		Perf.	All'd		
COWS.							
Condition.....	4						
Health (outward appearance).....	6		Cleanliness	10			
Comfort	4		STABLE.				
Bedding	2		Cleanliness	12			
Temperature of stable	1		Floor	4			
Protected yard	1		Walls	2			
Cubic feet of space per cow;			Ceiling	2			
Over 300, 2; over 400, 4; 500			Ledges	1			
to 1000, 6	6		Mangers and partitions	1			
Feed	4		Windows	1			
Water	8		No other animals in stable	1			
Clean	6		Stable Air	4			
Fresh	2		Removal of manure	4			
STABLE.							
Location	6		To field or proper pit.....	4			
Well drained	3		30 feet from stable.....	2			
Free from contaminating sur-			Cleanliness of stable yard	2			
roundings	3		MILK ROOM.				
Construction	10		Cleanliness	6			
Tight, sound floor	3		Care and cleanliness of utensils	10			
Gutter	1		Inverted in pure air.....	2			
Stall, stanchion, tie.....	1		Clean (superficially)	4			
Low-down manger	1		Sterilized.....	4			
Smooth, tight walls.....	1		MILKING.				
Smooth, tight ceiling	2		Cleanliness	14			
Box stall	1		Clean, dry hands	4			
Light; 1 sq. ft. glass per cow, 2;			Udders washed and dried	10			
2 sq. ft., 4; 3 sq. ft., 6; 4 sq.			Cleaned with moist cloth.....	8			
ft., 8; even distribution, 2	10		Cleaned with dry cloth	4			
Ventilation: Sliding windows, 2;			CARE OF MILK.				
hinged at bottom, 4; King			Cooling	20			
system or muslin curtain, 8	8		Removed from stable im-				
Stable yard (drainage)	2		mediately after milking				
MILK ROOM.							
Location	6		each cow and promptly				
Convenience	2		cooled	10			
Free from contaminating sur-			Cooled to 50° F. or below	10			
roundings	4		51° to 55° F.....	8			
Construction	4		56° to 60° F.....	6			
Floor	1.5		Storing	8			
Walls and ceilings.....	1		Below 50° F.	8			
Light5		51° to 55° F.....	6			
Ventilation5		56° to 60° F.....	4			
Screens5		Transportation	10			
Arrangement	2		Iced in summer	10			
Equipment	6		Jacket or wet blanket in				
Hot Water or steam	2		summer	8			
Cooler	2		Dry blanket	4			
Narrow-top milk pail	1		Covered wagon	2			
Other utensils	1		Total				
Water supply for utensils	10			100			
Clean	6						
Convenient	2						
Abundant	2						
Milking suits	4						
Total							
	100						

Score of methods..... multiplied by 2=.....

Score of equipment..... multiplied by 1=.....

Total divided by 3= **Final Score.**

NOTE.—Deductions may be made for exceptionally bad conditions.

NOTE.—If the herd has not been tuberculin tested within a year, the limit for the score will be 80.

Inspector.

The Skowhegan Jersey Creamery was visited and scored by H.S. Robinson of the Boston Health Department, Dairy Division, on August 2, 1922. His report on the milk analysis at that time is as follows:

Dairy SK. Jer. Creamery.

The Town of Skowhegan, Maine.

Date. August 2, 1922.

Sample No.	Temperature.	Bacteria per C.C.	Remarks
1	48 F.	1 M.	

This was taken from the records at the City Hall Annex, Boston.

A report of his visit to the creamery is given below:

MILK DEPOT. Dealer Slembegan Jersey Creamery Date July 10 1922
 At Slembegan Maine Inspector H. S. Robinson
 Building Frame Stories Two Occupied Entire Time 3:45 P. M. 4:45 P. M.
 Frame Brick No. Nat Entire Part.
 Cans Milk sold Bulk Reid Bottled Brown Cans Cream sold Bulk Bottled
 What make. Pasteurizer 150°F Holder or retarder 30 min Regulator 10 min Recorder 46°C Capacity 6,000 lbs
 Temperature. Heated to How long held How long to Cool after holding Cooled to Fair Per hour none
 Wagons. No. Retail Wholesale Nos. licenses Plates on Address on Covered Separate storage compts. Cleanliness Odor
 Notice. To owner Agent Milk dealer No. Days limit Issued

Milk From — Name and Address	Railroad	Arrives at	Time
Local producers about 382			
about 24 jugs of cream is sent to the Boston market daily			
100 lbs of butter is made daily and considerable ice			
cream is manufactured			

REMARKS Provide covers for vats in pasteurizing room. Screen windows & better ventilation must be provided. Drip pan under shaft over separator.

BOSTON HEALTH DEPARTMENT—DAIRY DIVISION

INSPECTION OF MILK DEPOTS

EQUIPMENT	SCORE		METHODS	SCORE	
	Perfect	Allowed		Perfect	Allowed
LOCATION	5	5.	MILK AND WASHROOM		
Deduct if opening into—			Cleanliness:	20	19.5
Store..... 1			Surroundings clean..... 1	8	
Living rooms..... 2			Floors, including corners..... 2	1.7	
Kitchen..... 2			Walls: Clean..... 1	1	
Laundry..... 3			Ceiling..... 2	2.	
Located in basement..... 3			Windows and ledges..... 1	2.	
Cellar..... 5			Refrigerator and storage vats..... 5	1.	
Toilet opening into depot..... 5			Depot free from flies..... 5	5.	
Opening into barn..... 5			Depot free from odor..... 3	3.	
CONSTRUCTION	20	18	UTENSILS AND APPARATUS		
Floor:			Cleanliness:	55	29.
Cement..... 5	5		Pasteurizer and Cooler:		
Wood..... 3			Clean..... 2	2	
Tile..... 2			Sterilized..... 3	2	
Brick..... 2			Separator and Clarifier:		
Smooth and free from defects..... 5	4		Clean..... 2	2	
Walls and Ceiling:			Sterilized..... 3	2	
Enameled metal, wood or tile.... 7	7		Bottle Filler:		
Cement..... 6			Clean..... 2	0	
Plaster..... 3			Sterilized..... 3		
Brick..... 2			Pumps and Pipes:		
Smooth and free from defects.... 3	2		Clean..... 2	2	
Washroom:	15	15	Sterilized..... 3	2	
Situated so that dirty utensils do			Receiving vats:		
not pass through milk room.... 3	3		Clean..... 2	2	
Smooth tubs..... 3	3		Sterilized..... 3	2	
Revolving brushes..... 5	5		Farmer's Cans:		
Rinsing and draining facilities.... 4	4		Clean..... 2	2	
SCREENS IN FLY SEASON	5	2.5	Sterilized..... 3	2	
SANITATION			Bottles:		
Light: Window area equal to 15%	8	8.	Well soaked, washed, rinsed in		
of floor area..... 8			running water and drained... 5	0	
Deduct 1 for every 2% less..... 5	3.		Sterilized..... 5	0	
Ventilation:			Cans for Storing:		
Free from odors..... 5			Clean..... 5	5	
Odors in depot..... 0			Sterilized..... 5	4	
Drainage:			Shipping Crates:		
Ample..... 5	10	10.	Washed and rinsed..... 2	0	
Trapped to sewer by deep seal trap, 5			Bottle Caps properly stored... 3		
Vats and Refrigerators:	7	5.	HANDLING OF MILK		
Impervious construction and well			Protection from Dust and Flies:	15	11.
covered..... 4	2		Windows and doors screened.... 5	3	
Indirectly trapped to sewer..... 3	3		Covered vats..... 2	1	
Apparatus:			Clean hands..... 3	2	
Bottle Filler:	20	13.	Clean suits..... 2	2	
Machine..... 3	0		No expectorating in depot..... 2	0	
Hand..... 2			Bottling machine kept covered... 1		
Bottle Capper:			Storage:		
Machine..... 3	0		Below 50° F..... 10	10	10.
Hand..... 0			Above 50° F..... 0		
Milk Pumps and Pipes:					
Readily taken apart and cleaned, 3	3				
Pipe Connections:					
All crosses or tees..... 3	3				
Pasteurizer:					
Easily cleaned..... 3	3				
Depot equipped with sterilizing					
apparatus..... 4	4				
Bottle caps in clean covered re-					
ceptacle..... 1	0				
Dressing Room:	5	5.			
Hot water, soap and towels..... 2	2				
Sanitary lavatory..... 2	2				
Uniform working suits..... 1	1				
TOTAL.....	84.5	100	TOTAL.....	69.5	100

Score of Equipment..... 84.5 Multiplied by 1 = 84.5

Score of Methods..... 69.5 Multiplied by 2 = 139.0

Total..... 223.5 ÷ 3 = 74.5 Final Score

Inspector..... H. S. Robinson

SANITARY NUISANCES

SANITARY NUISANCES

(a) Sources of Odors. The town is very free from unpleasant odors, practically the only sources of odors are from the slaughter houses, the town dump, earth closets, sewers, leaky sink drains, and an occasional dead animal. There are no manufacturing industries in the town that are productive of any disagreeable odors.

It is part of the local health officer's duty to investigate any complaint of unpleasant odors. He has posted a sign at the entrance to the town dump, prohibiting the dumping of perishable goods, this sign serves some purpose. The earth closets complained of to him must be removed or the famile instructed to use sand and chloride of lime.

All along the river bank there are various sewers dumping, which at certain times of the year when the water level is low, are considerably above the water level and cause a somewhat disagreeable odor. Like wise in various parts of the town there are private sewers dumping into small brooks which are a common source of odors and complaints. Two such conditions have existed for some time. One is located on Middle Street, and the other on the south side of the river. The latter takes care of it self in the spring time when there is plenty of water in the brook but in the middle of the summer and late fall the water level is very low and there is a stagnant pool of sewage. This condition has been complained of to the health officer but he is unable to remedy the condition.

There are three slaughter houses in the town, all located on the out skirts of the village, two of these are used so seldom that there is little cause for complaint. The third however is located the nearest to the town of any and is the most constantly used. This place

is situated about two-hundred yards from one of the most frequented roads, on which there are many private dwellings. Occasionally odors from this establishment are troublesome as the refuse is thrown out upon the ground to allow nature and stray dogs to dispose of it. This condition has frequently been complained of but as yet very little has been done.

(b) Dust. The only source of dust to be combated in the town is from the streets. Many of the streets are macadam and thus are not to be considered, these are constantly being added to each year, but there are many that are ordinary dirt roads and the dust problem is then handled in one of three ways.

(1) Sprinkling. The town maintains two horse drawn street sprinklers which during the dry weather are constantly in use. The cost of maintenance is born by the residents along the streets sprinkled, this tax is compulsory and the method consequently adequate.

(2) Oiling. The macadam streets are of tarvia construction, and these are oiled once or twice a year. This method is very satisfactory for two reasons, first it eliminates the dust and second it aids each year in keeping the streets in question in good condition by a yearly resurfacing.

(3) Calcium Chloride. During the last year the select men have tried out a method of covering certain of the streets with crystalline calcium chloride, which by virtue of its deliquescent properties was supposed to keep the streets moist and thus to keep the dust laid at all times. This method worked only a short time as the first heavy rain washed all the salt away.

(c) Rubbish and General Cleanliness; Empty Lots; Dumps.

The town may be said to be in good condition as a whole in regard to general cleanliness. The town hires a man to police the streets in the buisness section, the residential sections are kept clean by the street commissioner and his personel. All empty lots have been cleaned up and rubbish hawled away to the town dump. The ladies clubs in the town have taken particular care to bring the matter of general cleanliness to the attention of the select men and the town's people through the medium of the weekly paper.

(d) Flies and Mosquitoes. There are no general measures taken to exterminate flies or mosquitoes. The local health officer compells the merchants to keep all food stuff displayed out side, under cover of screening. This prevents their contamination by flies.

(e) Rats and Vermin. In no way can rats and vermin be considered a public health menace in the town. Individuals who are bothered by them solve their own problems by the use of traps, rat poison or by relying on the family cat.

(f) Stables and Manure. There is only one public stable in the town. The manure is deposited in the basement and every two weeks it is cleaned out by selling it to farmers or local producers for use on their land for fertilized. The basement is well protected from flies, and as far as I know the place is not complained of.

(g) Breeding Places of Mosquitoes. There are many mosquitoes in the town particularly in the early summer. Their breeding places are very varied and numerous as there are many boggy and swampy places, so far the town has taken no steps to clean them up. Skowhegan is too far to the north to be in danger of Malaria or Yellow Fever, so these swamps are much less desirable here than they would be further south.

(h) Smoke. There are no sources of smoke in the town to be of a public health problem. All of the local manufacturing concerns use electricity as their source of power. This eliminates the local consumption of coal as it is used only for heating purposes.

(i) Unnecessary Noises. There is no complaint to enter in regard to noises in the town.

(j) Piggeries. There are no piggeries in the town. Many of the inhabitants, particularly the Canadian French, own small piggeries.

(k) A public or common nuisance is such an inconvenience or troublesome offence as annoys the whole community in general, and not merely some particular person. It produces no special injury to one more than another of the people.

If it has been decided that a nuisance has been committed, they return an indictment, and the man goes on trial before a traverse jury. If found guilty the judge imposes sentence according to the law.

INDUSTRIAL HYGIENE

MAINE SPINNING COMPANY.

This factory is located in the central part of the town, on the Island. It is constructed of brick and cement, and is a new building, being erected in 1921. It is four stories high.

The employees work 48 hours a week, nine hours a day for five days, and three hours on Saturday. The hours are from seven to twelve A.M. and from one to five P.M. The management does not notice any less efficiency on Monday. No one over 45 years of age is employed, and no one under 18, approximately 80% are less than twenty five years old. The pay roll consists of 200, of which 140 are females and 60 males.

The ventilation is by means of traps in the windows, which provide plenty of fresh air at all times. There is a certain amount of dust which comes ^{from} the spindles. It consists of wool fibers. No chemicals are used in the mill and the only odor is from the wool and from olive oil. The temperature is constantly kept at 70 degrees F. as this is found to be the best for the wool. The windows are doubled glazed and provide adequate light during the day, artificial light being supplied by electricity. There are 200 electric lamps of 75 watts each lighting 17,600 square feet. The rooms are 13 feet high.

The drinking water is supplied from Pennel's Spring. A discussion of that water supply will be found under the chapter on water. There are no sanitary drinking cups, each one must bring his or her own cup.

There are two toilets and two wash rooms on each floor, one for males and one for females. Each floor is equipped with lockers for the employees and they change their clothing to suit their individual comforts.

In the past eight years there have been two accidents, one woman lost a finger which was amputated following an infected laceration received in the mill, and one woman had a traumatic amputation of a finger. Since the factory was inspected, one of the local electricians was electrified in the mill while making adjustments on a starting box.

The only insurance carried by the company for its employees is the Workman's Insurance and this is required by the laws of the State of Maine.

The plant is heated by steam, and on the day the writer made his visit the temperature was 75 degrees F. and 65% humidity. This plant was visited on September 12, 1923, at 10 A. M. There are twelve Parks Cramer Air Condensers in each room or on each floor and each floor is provided with Grinnell fire extinguishers. There are no receptacles for spit, and no medical examinations are required before employment or periodically thruout the year.

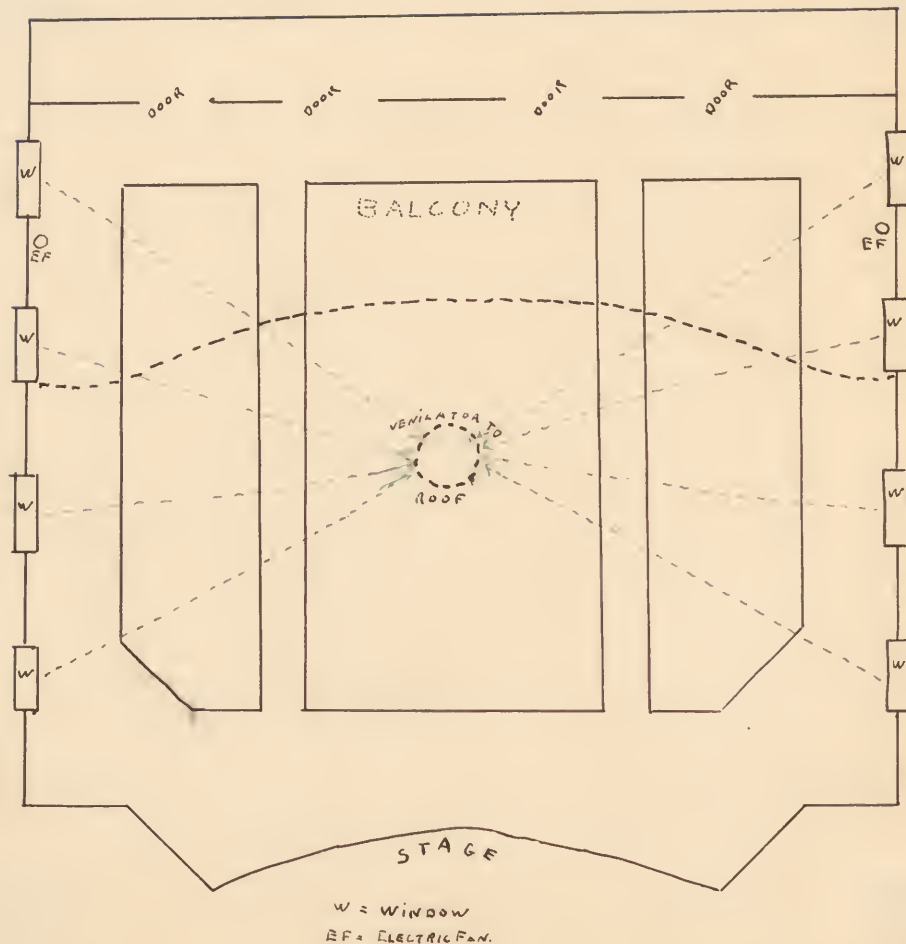
In the spinning industry one would associate such industrial poisons as (a) benzol or benzene, (b) carbon disulphide, (c) anilin, and (d) manganese, but no chemicals are used in this plant. The only hazards are those associated with unprotected machinery and electricity, and all possible precautions are taken.

VENTILATION

VENTILATION of the CITY OPERA HOUSE

The city opera house is the largest building in the town. In it are located the offices of the Supt. of Schools, School Nurse, Select Men, Town clerk, and County Farm Agency. The only method of ventilating these offices is by opening the windows.

The auditorium, which is rented to a local corporation as a moving picture theatre, occupies the entire building above the first story. It has, with the balcony, a seating capacity of 1000. A diagram of the arrangement of seats, windows, ect, is shown below:



A steam radiator is situated beneath each window and just behind each radiator there is a damper which connects out side. This provides a constant source of fresh air. There is one exit in the center of the ceiling that conducts the warm air to the outside thru a gavanized iron pipe.

In the summer the windows are opened wide and the two electric fans shown in the diagram are used. In the winter the ventilation is greatly aided by the furnace.

INFECTIOUS DISEASES

INFECTIOUS DISEASES.

The list of diseases notification of which is required by the health department is given below:

Form 236

STATE DEPARTMENT OF HEALTH

Attention of Parents and Householders

Diseases That Must Be Reported TO THE LOCAL HEALTH OFFICER

Anthrax	Mumps
Chickenpox	Paratyphoid Fever
Diphtheria (all kinds)	Pneumonia
Dysentery	Poliomyelitis
(a) amebic	(Infantile Paralysis)
(b) bacillary	Rabies
Favus (ringworm)	Scarlet Fever
German Measles	Septic Sore Throat,
Glanders	(epidemic sore throat)
Influenza (Grippe)	Smallpox
Measles	Tetanus (Lockjaw)
Meningitis	Tuberculosis, all forms
(a) cerebrospinal	Typhoid Fever
(b) tuberculous	Whooping Cough

Rule 4 of the Rules and Regulations of the State Department of Health reads as follows:

Householders to Report Cases.—Whenever any householder knows or has reason to believe that any person within his family or household has any of the diseases listed in Rule 2, (shown above) he shall at once, and within twenty-four hours, give notice thereof to the local health officer of the town in which he resides and such report shall be by telephone when practicable, and shall also be made in writing.

The foregoing list includes those reportable diseases listed in Rule 2 that would be likely to be recognized or suspected by parents or other non-medical persons.

The law requires health officers, state and local, to enforce the penalty for the failure to report these diseases, but what the Department the most wishes is to save parents the sorrow and remorse which so often comes for not doing the right thing promptly when an infectious disease enters a home.

Please feel free at any time to send for circulars which may help you to avoid dangers.

ISSUED BY
STATE DEPARTMENT OF HEALTH
AUGUSTA, MAINE.

(b) The quarantine regulations as given me by the local health officer are as follows:

Diseases quarantined.	Period of quarantine.
(1) Scarlet fever -----	30 days.
(2) Small pox -----	30 days.
(3) Diphtheria -----	30 days.
(4) Measles -----	14 days.

Any cases of the above mentioned diseases are released from quarantine only when they are declared recovered from the disease, provided it is not before the time minimum specified above. Diphtheria patients are required to have negative throat cultures in addition.

(c) When infectious diseases break out in the town the health officer distributes pamphlets furnished by the state department of health to the responsible members of the family. In addition to this the physician in charge of the case instructs the family as to the necessary precautions. At the close of the quarantine the health officer fumigates the house. He uses formaldehyde gas, all bed linen is suspended on lines in the rooms, and in addition the linen is aired in the sun before it is used again. The following circular will explain the processes recommended by the state department of health:

The Work of Disinfection.

STATE DEPARTMENT OF HEALTH OF MAINE.

There has, in the last few years, been a marked change in the practice of the leading and the most efficient health officers in their work of disinfection. It has been in the direction of banishing formaldehyde fumigation and all other sorts of fumigation in room disinfection and the substitution of soap and water applied with the scrubbing brush; boiling things that can be boiled; the use of disinfecting solutions as required, and exposure to air and sunshine.

There are two distinct lines of work in the disinfection of the person who has or has had an infectious disease and the disinfection of his surroundings.

(1) During the course of the illness efficient measures should continually be observed to guard against the carrying of infection from the sick or infectious person and for the prompt destruction of all excretions or other infectious matter so it may not soil or render infectious the things, rooms, or furnishings used or occupied by the patient.

(2) The final disinfection at the termination of the period of illness and convalescence. The more faithfully the first line of work is done, the less the need of the terminal disinfection.

The following are brief directions for carrying out the most important pieces of work when there is need of disinfection. (See "Disinfecting Solutions.")

Discharges from the Nose and Throat.

In a long list of our common infectious diseases—diphtheria, scarlet fever, measles, German measles, whooping cough and others—a precautionary measure of prime importance is to catch and destroy the discharges from the mouth and throat and nose, and thus guard against the smearing of the clothing, the bedding, or anything else with this infectious matter.

The surest way of destroying infection in these discharges is to receive them in burnable spit-cups or on pieces of cloth or paper and burn them. Handkerchiefs or other cloths or clothing which have been soiled with these discharges may be freed from infection by immersion in water or soap and water and boiling for at least 10 minutes. Or,

they may be disinfected by soaking them several hours in the weak formaldehyde solution or the solution of Kreso or Coro-Noleum (Solution 7 or 8).

Discharges from the Bowels.

In another class of diseases—typhoid fever, para-typhoid fever, dysentery, Asiatic cholera—the chief source of infection is in the discharges from the bowels and sometimes in the urine.

These are disinfected with the greatest degree of certainty by means of heat. Into the vessel into which the discharge has been received, pour a quantity of boiling water at least 5 or 6 times that of the matter to be disinfected. Let it stand until cold. Failure to disinfect in this way may result if there is too rapid cooling of the vessel and its contents.

Or, a solution of chloride of lime (Solution 4), or Solution 8 may be used for this purpose, or Solution 7, double strength, adding to the excreta a quantity of one of these solutions at least twice as large as the volume of the discharge, and if Solution 4 is used, four or five times the quantity. Before the final disposal, the disinfectant should act three or four hours at least—the longer the better, and there must have been a very thorough mixing of the disinfectant and the material to be disinfected.

Hands.

The hands of the attendant upon the sick should be carefully cleansed after every handling of the patient or of infectious matter or infected things. Wash thoroughly with soap and water and then rinse the hands in clean water; but it is still better after washing the hands to soak them for one full minute at least in a disinfecting solution, Solution 8, preferably.

Disinfecting Bath for the Patient.

This is desirable for the patient who has had smallpox, scarlet fever, or other of the more serious of the infectious diseases before he is released from quarantine.

This disinfection of the patient may be by means of a sponge bath applied with a wash cloth or bathing cloth wet in Solution 8, one-half strength, or in a solution made by dissolving one tablet of bichloride of mercury (corrosive sublimate) in three pints of water.

The bichloride solution must not be made nor used in metallic vessels. The hair of a person receiving a disinfecting bath should be well moistened to the scalp.

Eating Utensils.

Disinfect forks, spoons, cups and all other eating utensils used by the sick one or carried from the room, by immersion in boiling water for 10 minutes or so. If that cannot be done, let them remain in Solution 7 or 8 twice as long.

Cotton and Linen Clothing.

Boil for at least ten minutes or soak in Solution 7 or 8. The clothing should remain in the solution ten or twelve hours and then be washed.

Woolen Clothing.

May be subjected to steam disinfection, or may be sprinkled plentifully with formaldehyde solution, and wrapped in a rubber blanket.

Steam disinfection can be done in the common wash boiler by supporting, above the water with two bricks or otherwise, a false flooring of lath or thin board. Pour in two or three inches of water, place the articles to be disinfected above the false flooring, put on the cover and steam one hour after the water begins to boil, keeping the water briskly boiling all the time. Replenish with more boiling water if necessary. Woolen clothing or cotton and wool fabrics which would be shrunk by boiling are not so badly injured by steam disinfection.

Bedding.

Throw straw beds out of the window. Empty out and burn straw. Then disinfect the tick as for cotton clothing. Disinfect feather beds, pillows, quilts, comforters, and blankets by steam disinfection when practicable, or if not soiled, with formaldehyde in large doses. Bed blankets, quilts, spreads and comforters, may be disinfected as for woolen clothing.

Rugs and Carpets.

It is important to disinfect these carefully. Small and moderate-sized rugs should be piled several in a pile and each sprinkled or sprayed plentifully with Solution 7 as it is laid in place. Then roll all together tightly and tie up the roll with twine at each end of the roll. Large rugs and carpets may be sprayed or sprinkled well or scrubbed thoroughly with a brush or broom dipped frequently into Solution 7 or 8. Then air out well with out-door exposure to the sunshine if practicable.

Lounges, Couches and Other Upholstered Furniture.

Scrub with Solution 7 or 8, using for the application of the disinfectant a hand-cloth or towel squeezed out after immersion in the solution, or a large brush dipped very frequently into the solution. Then, if practicable, expose to the direct outdoor sunshine a day or two.

Floors, Walls and Other Surfaces.

Floors may be scrubbed with Solution 7 or 8. If it is an old, loose floor the application should be plentiful enough to saturate the dust in the cracks.

The washing or wiping of walls or the surfaces of furniture with cloths wrung from a disinfecting solution—No. 7 or 8, suffices. Walls need no treatment unless infectious hands or excretions have reached them. If Solutions 7 or 8 are not available the scrubbing may be done with hot water and soap.

The Sick Room (A Preliminary Fumigation).

This should never be considered so essential a part of the work of disinfection as the methods described in the preceding paragraphs, and after this fumigation those other processes should be carried out as fully and carefully as is possible.

The first consideration should be arrangements for suspending, with no overlapping or folding, the blankets, quilts and other parts of the bedding and clothing which can be hung up. The way we may do this must vary somewhat with the differing conditions found in rooms; but the following may serve as a general statement of what may be done.

Look for windows and doors which are upon opposite sides of the room. From each end of a window-cap and from the center if need be, insert, with the householder's permission, a screw-eye (wire about one-eighth inch in diameter). Put screw-eyes similarly into the cap of a door or window upon the other side of the room. Through the screw-eyes run lines of hempen twine two-sixteenths or three-sixteenths of an inch in diameter. If need be, and if practicable, stretch a larger number of lines than the two or three.

For the suspension of the small articles, three or four lines may be stretched from the headboard to the footboard of the bedstead. The mattress should be left wholly uncovered.

Clothing and the lighter bedding in other rooms which may have been infected may also be suspended in the one room which is to be fumigated.

Upon the line nearest to the door from which the disinfectant is to escape, reserve a space for the suspension of a bed sheet, whole size. With all openings in the room tightly closed, the operator sprays upon the sheet all the full-strength formaldehyde (formalin) the sheet will hold without dripping much, a pint or more. If the room has much more than 1000 cubic feet of space, two sheets should be used.

The sprayer must be one which will distribute evenly the full quantity of formaldehyde solution upon the sheet in a very few seconds. Every health officer should have such sprayer and should keep on hand screw-eyes and heavy twine to be used in this kind of work.

Privy Vaults.

Solution 4 or milk of lime (Solution 5) may be used for this purpose. Gallon after gallon should be applied until the contents of the vault are saturated. Then after cleaning out and carting away, the whole inside surface of the vault or the ground should again be thoroughly saturated with the disinfectant.

Camps and Shacks.

Camps and other loosely-built structures require special treatment. In a lumber camp, for example, the boughs, straw, or other material serving as a substitute for mattresses should be cleaned out and burned. The blankets or spreads, stretched out their full length, should be slowly rolled by one person while another sprinkles them plentifully with Solution 7, preferably. If that is not available, the bichloride solution (Solution 6) or Solution 8 may be used. After the rolling of the spread is completed, it should be tied up and wrapped in a rubber blanket or other impermeable fabric if available. If it is not it should be tied tightly and the outer surface saturated with the solution.

The camps themselves should be disinfected by spraying very plentifully their walls with Solution 7 or 8 and sprinkling or spraying the floors so plentifully that the wooden or earthen floor is well wetted and that the dust and dirt in the cracks of wooden floors is completely saturated with the solution.

The clothing and other articles found in camps may be disinfected in accordance with the directions which have already been given for the disinfection of such articles.

DISINFECTING AGENCIES AND PROCESSES.

The work of disinfection may be done by means of physical agencies or chemical agents. The following are brief references to some of these disinfecting agents and processes.

Heat.

By burning infected articles or by boiling them in water, infection may be destroyed with certainty. Steam disinfection is just as trustworthy when intelligently done.

Burning.

The destruction by burning is an absolutely certain method (See "Discharges from the Nose and Throat"). It is sometimes necessary to have infected articles burned when such articles are of but little value and cannot be disinfected in a trustworthy way.

Boiling.

Cotton and woolen fabrics—handkerchiefs, towels, personal clothing and bed clothing—are disinfected with the greatest degree of certainty by immersion in water or soap suds and then boiling for not less than ten minutes. The water must be actually boiling for that length of time. Spoons, forks, and other eating utensils are also the most effectively disinfected by immersion for a few minutes in boiling water.

The Scrubbing Brush.

A thorough scrubbing with soap and water goes quite a long way in the work of disinfecting floors, walls, doors, furniture and other things to which this method of cleansing can be applied. Still more trustworthy is a washing which not only cleanses, but applies, at the same time, a chemical germicide of known value, Solution 6, Solution 7 or Solution 8, for instance.

Sunlight.

Direct sunlight outdoors in uncovered areas is rapidly destructive of disease germs. Indoors for the disinfection of rooms and their contents the light which is available is of far lower intensity and is limited in its germicidal powers. Exposure to the sunshine is desirable as supplementary to other processes of disinfection; for instance, rugs, carpets or upholstered furniture that have been disinfected as efficiently as is practicable by chemical agencies may be placed outdoors in the direct sunshine for a few days following their indoor disinfection.

Formaldehyde.

Formaldehyde fumigation by the liberation of the gas through the action of permanganate of potassium is now impracticable for the reason that the price of permanganate is prohibitive. A large variety of formaldehyde candles and lamps are upon the market but with none of these can the whole quantity of gas be liberated in a very few minutes as it must be to give the best results. None of these devices present efficient processes for room disinfection or for general disinfection.

The sheet method described in this circular should be ranked merely as an auxiliary in the work of cleaning and disinfecting at the termination of a case of infectious disease.

Formaldehyde Solution.

The commercial 40 per cent. solution of formaldehyde, rarely up to that strength, is too strong for general use as a disinfecting solution; but, diluted about one part to 20 parts of water (Solution 7), it is very efficient as a wash for

furniture, woodwork, and other things; for scrubbing floors, walls, carpets, rugs, and woolen clothing; and for soaking all linens or other washable fabrics. It may also be used for the disinfection of sputum and discharges from the bowels.

Sulphur Fumigation.

This is not an efficient method of destroying bacteria but the gas which is given off is very poisonous to all forms of animal life, high or low. It is, therefore, of special value as a method of destroying rats, mice, flies, fleas, and mosquitoes as carriers of infectious diseases and of destroying various other insect household pests.

The sulphur used may be either the flowers of sulphur or sticks or rolls of brimstone which have been crushed into a powder. It should be burned in shallow pots or pans which are placed in tubs of water, preferably covered with wire screen to catch any of the burning sulphur which may pop out. The sulphur may be lighted by means of hot coals but by far the most trustworthy way is to light it with alcohol—grain alcohol or wood alcohol. Hollow the sulphur out in the center and soak liberally with alcohol and then ignite it. When used for the destruction of insects, two pounds per 1000 cubic feet of space is sufficient with an exposure of from four to six hours.

It should be borne in mind in resorting to sulphur fumigation that wall papers, clothing or other fabrics colored with dyes of vegetable origin or with many of the analine dyes are bleached. It attacks most metals and lessens the tensile strength of various fabrics.

Carbolic Acid (Phenol).

The use of carbolic acid as a household disinfectant or remedy should be discouraged on account of its dangerously poisonous qualities. Neither should the health officer be encouraged to include it among his disinfecting agents for the reason of its extremely high cost at the present time and for the additional reason that it is very much outranked by some of the other chemical disinfectants which, while more efficient germicides, are not nearly so dangerously poisonous when accidentally swallowed.

Kreso, Etc.

The investigations which have been carried on in the hygienic laboratory of the Surgeon General of the Public Health Service in Washington have shown that Kreso, Coronoileum, and some of the other proprietary disinfectants are very efficient, more so than carbolic acid. But no disinfectant of this kind should be used unless, upon the bottle or other container, there is a plain statement of the carbolic acid (phenol) coefficient of the product. The figure which represents its coefficient indicates how many times stronger

than pure carbolic acid the disinfectant is. For instance, if, upon the bottle, there is the statement that the guaranteed coefficient is 7 or 15, the meaning is that the preparation is so much more efficient as a germicide than is carbolic acid, whose coefficient, one, serves as the standard for comparison.

Corrosive Sublimate (Bichloride of Mercury).

The popular use of this chemical as a disinfectant, whether in powder or crystals or in tablets, should be restricted for the reason that it is so intensely poisonous; because it coagulates albuminous matter and thus fails to penetrate material to be disinfected; and because it is destructive of metals and itself is reacted on by the metals so as to lose much of its efficiency as a germicide. Its sphere of usefulness is thus restricted.

Lime and Chlorinated Lime (Chloride of Lime).

These for certain purposes are trustworthy disinfectants. Their range of usefulness may be gathered by an examination of the preceding parts of this circular.

DISINFECTING SOLUTIONS.

SOLUTION 4.—Chloride of Lime, 6 ounces; water, 1 gallon. Mix. This is about a 3 per cent. solution. Decolorizes and destroys fabrics.

SOLUTION 5.—“Milk of Lime.”—Slake a quart of freshly burnt lime in small pieces with three-fourths of a quart of water—or to be exact 60 parts of water by weight with 100 of lime. A dry powder of slaked lime (hydrate of lime) results. Make milk of lime not long before it is to be used by mixing 1 quart of this dry hydrate of lime with 4 quarts of water.

Air-slaked lime is worthless. The dry hydrate may be preserved some time if it is enclosed in an air-tight container. Milk of lime should be freshly prepared but may be kept a few days if it is closely stoppered.

SOLUTION 6.—Corrosive Sublimate, 8 ordinary tablets, or 1 dram. Water 1 gallon. Mix and dissolve. Label, *Poison!* This is approximately a 1:1000 solution. One ounce of this solution contains very nearly half a grain of corrosive sublimate.

SOLUTION 7.—Solution of Formaldehyde (Formalin), 6 ounces; water, 1 gallon. Mix. This mixture contains a little less than 2 per cent. of formaldehyde.

SOLUTION 8.—Upon 2 ounces (4 tablespoonfuls) of Kreso or Coro Noleum pour 1 gallon of lukewarm water. Shake or stir thoroughly.

For the disinfection of sputum or typhoid discharges use Solution 8 full strength. For other purposes use half-strength.

(d) Whenever a case of tuberculosis is discovered by one of the local physicians he is supposed to report the same to the local health officer, who in turn reports it to the state department of health at Augusta. In addition to this the local health officer distributes such information to the family as is given to him in the form of circulars by the state. The following forms are explanatory:

PHYSICIAN'S REPORT OF A CASE OF TUBERCULOSIS.

To the Local Health Officer of
(Town or City)

As is provided in section 9, Chapter 19, R. S. as amended by Chapter 27, Laws of 1919, I hereby report a case of tuberculosis to you.

1. Name of patient..... P. O. Address.....
2. This patient resides in.....
(Name of City, Town or Plantation. If City or Village, give street and number)
3. If a minor, give the name and P. O. address of guardian or head of family where patient is.....
4. Birthplace of patient.....
5. Sex..... 6. Age..... 7. Single, Married, Widowed.....
8. Stage of disease..... 9. How long ill.....
10. Part of body affected.....
11. Evidence on which diagnosis is made.....
12. Name of Medical attendant.....
13. Will patient remain under treatment at home or go to a sanatorium or elsewhere.....
14. If not now under medical treatment, give the name of the physician or institution, if any, under whose treatment the patient formerly was.....
15. Present occupation, what and where.....
16. Condition of other members of the family.....
17. What immediate help, if any, should the patient have.....
18. What measures are in operation to safeguard his associates at home or elsewhere.....
19. Person to whom the circulars of the State Department of Health may be sent (physician, patient, or legal guardian).....

This notice is given by.....

Date of report.....

NOTE—When any part of the information required above cannot be obtained this fact should be shown opposite the question, otherwise this report will be returned for correction.

TO THE LOCAL HEALTH OFFICER.

As soon as the local health officer receives this notice he should make a record of it and then forward this notice to: Division of Communicable diseases, State Department of Health, Augusta, Maine.

The legislative provisions relating to the duties of physicians and local boards of health in connection with cases of tuberculosis may be found in Sections 9 to 17, of Chapter 19 R. S. (pages 104-106, Abstract of the Health Laws, 1919.)

Reports of cases of tuberculosis from physicians should be received as strictly confidential and so long as a patient is under the care of a physician the doctor should be expected and trusted to look after the welfare and safety of all the members of the family as is provided in Section 14.

If not already in his hands, the local health officer should order herewith any leaflets or circulars he may need for aiding and instructing families, in which there may be cases of tuberculosis.

Guarding Against Tuberculosis

Issued by the State Department of Health of Maine.

Two facts have been very clearly shown about that terrible destroyer of human lives, tuberculosis: that it is a contagious or communicable disease, and that it is preventable. The teaching of how to prevent it has cut down very greatly the tuberculosis death-rate and, with the wide diffusion of trustworthy information about guarding ourselves and in saving others from danger, a still better showing may be made.

The work of saving lives from tuberculosis must be followed out in two directions: (a) the saving of ourselves and others from exposure to the infection and (b) guarding against anything that may lower the health condition and thus lower the degree of immunity, or resistance which each person may have against the action of infection which may come from without, or from that infection which may already have found a lodgment within us.

For the source of infection, too, we must look in two directions: to human beings who have tuberculosis, and less frequently the infection may come from the use of milk from tuberculous cows.

Two Ways of Taking Infection.

As there are two lines of work in preventing tuberculosis, and two sources of infection, there are two chief ways of taking the infection into the system. A person may have the germ of the disease (the seed) planted in his system by breathing it in, or by taking it in by the way of the mouth. He may get the infection by breathing in the minute droplets of infectious matter sprayed into the air just around the coughing tuberculous patient, or by inhaling the infectious dust from dried and pulverized sputum (spit) when, on floors, handkerchiefs or clothing, it is disturbed by sweeping, brushing or shaking.

The infection comes to the mouth and digestive tract by anything which has been soiled by contact with what the

tuberculous person has coughed up—one's own fingers, the cups, spoons, forks, pencils, or other things that have been to the lips of tuberculous persons—and by the milk from cows with tuberculosis.

How Great is the Danger of Infection.

The danger varies very much with the age of the person exposed, the degree of exposure (that is the size of the dose of infection received), and some other conditions.

It is very near the truth to say that all infants, even of tuberculous mothers, come into the world free of infection and that they remain free of tuberculosis unless they receive the infection of the disease after birth.

Infants under two years of age are extremely susceptible to the infection of tuberculosis. They take it very easily, sometimes from a very slight exposure, and tuberculosis in them is pretty sure to assume a malignant and rapidly fatal form.

From the third to about the twelfth year the death rate from tuberculosis is lower than for the earlier years or for the higher age periods. The child has developed quite a degree of resistance, or immunity, so that if he takes in the infection, the disease assumes a much less serious form.

From the twelfth year there is a rapid rise in the tuberculosis death-rate, and from youth to old age tuberculosis claims many victims, the high mortality-rate at this period being due to the lighting up of old deposits of infection received in childhood, or less frequently to more recent sources of infection.

As during babyhood very slight and brief exposures may lead to disastrous results, the infant should be guarded very carefully from association with tuberculous persons, even those who are neat and careful, and from exposure to persons with a suspicious cough, particularly in elderly persons who are supposed to be troubled with only a chronic bronchitis or asthma.

Past the earliest years of childhood, the danger varies very much with the degree of exposure—whether intimately and continuously exposed, or whether the tuberculous person is careless or intelligently careful. Massive doses may break down degrees of immunity which exposed persons may have and so result in tuberculosis.

Tuberculosis in Many Forms

We are too much inclined to think of tuberculosis as a disease of the lungs only; but it may in fact invade any part of the body or any organ.

Tuberculosis in infancy almost always runs a rapid course as an acute general tuberculosis affecting the glandular system, very often the lungs; or, with symptoms of bronchopneumonia or inflammation of the brain, the baby may be carried off within a few days or a week or two.

After the child emerges from babyhood, tuberculous infection is often the cause of disease of the bones and joints, destroying the usefulness of the limbs or causing deformity of the spinal column, or tuberculous meningitis may destroy life, but more frequently the disease is localized in the glands of the neck and in the bronchial glands about the root of the lungs.

From the later years of childhood the rising death rate is chiefly due to tuberculosis of the lungs, though there is a great diversity in the type of this disease, the rate of its progress and in the other organs implicated in the tuberculous process.

It should be borne in mind that, in the beginning and in the progress of the disease, there are three stages: (a) That in which the infection has been received into the system but has as yet produced no distinct symptoms. In infancy this stage is usually short, but in the later years of life it may last months or years. (b) The stage of tuberculosis when symptoms, plain or obscure, indicate the beginning and the progress of tuberculosis. This stage may cover months or years. (c) The advanced stage of tuberculosis of the lungs commonly known as consumption.

Reading Danger Signals.

In the early stage of tuberculosis in children there may be no cough at all. The child is not robust, is likely to show symptoms of weakness and is tired easily when he plays too hard. Appetite may be poor. Such symptoms in children should remind one of tuberculosis and of the need of giving them the best of health conditions and of feeding them with nutritive and protective foods. (See Bulletin on "Food for the Family").

In the adult, through the first stage, while he is carrying the infection, the symptoms are so indefinite that the true

nature of the disease is recognized with difficulty. Without cough, bleeding, or anything as a distinct warning, there may be a poor appetite, he becomes more easily fatigued than formerly, and possibly he finds himself a little feverish after too much exertion. From the disease in this stage many persons recover without knowing that they had tuberculosis.

Quietly the disease may advance, extending itself into healthy tissue, or there may be a sudden transition so that the earlier symptoms may be more pronounced—a slight or moderate rise of temperature in the afternoon, particularly if undue exercise has been taken, a slight cough, perhaps only in the morning, poor appetite, loss of weight, bleeding from the lungs, night sweats.

In the great majority of cases of chronic tuberculosis the distinct remissions during which for weeks or months the patient feels comparatively well, followed by other periods of weeks or months through which the cough and other symptoms are worse, lead the patient and his friends wrongly to think that the bad spells are nothing but the result of a cold or grip.

In the later years of life tuberculosis often assumes a very slow and inactive form and may be thought to be nothing but a chronic bronchitis, the continuous cough and expectoration a constant source of danger to the other members of the household, particularly to the children.

In all cases of suspected tuberculosis when the person has a cough and is raising anything, samples of what is coughed up should be sent to the laboratory for examination. If the bacillus of tuberculosis is found that is positive proof of tuberculosis, but if it is not found, that does not prove that tuberculosis is not present, for the disease may be present for a while or even for a long time with the bacillus absent from the sputum.

Unfortunate, indeed, it is for the patient himself that the early symptoms are so frequently overlooked, for while tuberculosis is now classed with the curable diseases, the chances for a cure are very much greater in the earlier stages of the trouble.

Precepts for the Patient.

There are some very important things for the patient to know and always bear in mind. These are some of them:

1. The first and most important thing for the person who has tuberculosis or who has the symptoms that may mean tuberculosis is to know that he has it or probably has it; for every week that passes without a

change to the right kind of living and the right kind of treatment, brings him just so much the nearer to that last stage of the disease which we call consumption and in which the chances of cure are not nearly so good. The sooner he knows he has tuberculosis, the better.

2. The next thing for him to know is that tuberculosis is a curable disease. With early and intelligent management many more cases recover from it than are killed by it, counting from the early stages of the trouble.

3. If he has a cough and is raising, he must bear in mind that he is the center of distribution of a seed-supply that may endanger himself and others. Nature seeks to cure by getting rid of the original growth, but the uncleanly patient surrounds himself with an infectious atmosphere, one that is laden with the germs of tuberculosis sprayed into the air by careless coughing, or whisked into the air in the dust which comes from handkerchiefs, clothing, floors or other things that had been soiled with the spit. And he should remember that the greatest danger-point is the center of this infectious area, just where he is. There is need of the utmost care and cleanliness so that he may not be surrounded by this halo of infection, and, by breathing it in, possibly seed down other portions of his lungs not already infected.

4. To be safely clean in tuberculosis means the prompt disposal of every particle of tuberculous matter as it is coughed up so that there may be no soiling of hands, mouth, clothing, bedding, furniture, or floor. While coughing indoors, a piece of cloth or paper napkin should be held before the mouth and then burned. The receptacle for the sputum must have a cover so that flies may not enter it. It may be:

A. A paper cup held in a metal frame. After use the cup and its contents are burned. This receptacle, in use in the sanatoriums generally, is the preferable one.

B. Pressed paper spit-cups are on the market. One or several can be used daily and afterwards burned with cover and contents.

C. Metal or porcelain spit-cups or spittoons, each containing a small quantity of disinfecting Solution 8 or 2, may be used. The final disposal of the sputum may be:

1. By pouring it down the water-closet.

2. By cremation when practicable. (a) In a small fire outdoors. (b) In the house heater, using a stout sheet iron box with a handle three feet long. Partly fill the box with sawdust, or fold a paper inside it; pour in the contents of the spit-cup or cuspidor; with a direct draft and the heater open, invert the box over the firepot, holding the box in place a moment until the flame or the heat sterilizes it. When the sputum is to be cremated, but a small quantity of the disinfecting solution should be used in the spittoon.

3. By setting the vessel aside, preferably in a warm place, so that the disinfectant may act eight or twelve hours longer. The quantity of disinfecting solution should be in excess of that of the sputum. Then bury or otherwise dispose of it so that flies and domestic animals cannot reach it.

The patient should have two spit-cups or spittoons for alternate use. A cover should exclude flies. Cleansing can be done with washing soda and boiling water, or soap and hot water.

D. When away from his room the patient may spit into Japanese paper napkins to be put immediately into a rubber tobacco-pouch until they can be burned. But the fingers are pretty sure to be infected and as a general practice spitting into napkins or pieces of cloth is not to be recommended.

E. Spitting into handkerchiefs should be avoided. If occasionally forced to do this, the handkerchief should be boiled before the sputum dries. Handkerchiefs upon which the sputum is allowed to dry, surround the user with a halo of infection, infect the pocket and everything else they touch, and lessen the patient's chances of recovery. After coughing the lips should not be wiped with the handkerchief used for the nose. The lips may be wiped with paper napkins to be burned later.

Repress cough as much as possible. Cough gently with the mouth closed as much as may be. Never swallow the sputum.

Do not soil personal or bed clothing with the sputum nor soil the hands when avoidable. Wash the hands often. Male patients, who wear moustache or beard, should keep it closely clipped.

Rules for Attendants.

The floors, woodwork, and furniture of rooms in which consumptive patients stay should be wiped with a damp cloth, not dusted nor swept in the dry way.

Clothing may be disinfected by boiling as in ordinary laundry process-
es. Rooms and their contents may be disinfected as is advised in Circular 220. Localized disinfection should be done often enough to keep everything free from infection, every week or every day if need be. If the floor or other surfaces are accidentally soiled with sputum, the spots should be wet and rubbed with Solution 8 or 2.

Rooms for persons with tuberculosis should have no fixed carpets. A few rugs may replace them. They should frequently be carried into the open air and exposed to the action of direct sunshine several hours at a time. For the thorough disinfection of them, or of woollen clothing and other things that would be injured by boiling, steam is the best—a false bottom of laths in the common tin wash boiler supported above the bottom with two bricks; two or three inches of water beneath the lath flooring and the articles to be disinfected above it. Put on the cover and steam one hour, keeping the water briskly boiling, all the time. The tableware of the patient, the knife, fork, cup and spoons particularly, should be kept separate and washed by themselves in scalding water.

The attendant, too, must also remember for his own safety, that, in addition to the danger from infectious dust if it is allowed to be diffused through the air, there are other possible ways of communicating the infection. It may be carried directly to the mouth by the fingers, or indirectly by handling articles of food. After soiling the hands, cleanse them carefully. Guard against inoculating cuts or abrasions of the hands with the sputum.

Rules for Everybody.

A. Anything tending to lower the tone of the general health may act as a predisposing cause of tuberculosis—insufficient or unsuitable nutriment, overwork, loss of sleep, worry, close and dusty air. Avoid these. Do not over-heat homes and places of business. From 65 degrees to 68 degrees F. is much better than higher temperatures. Habituation will make these lower temperatures comfortable. Live in the open air and sunshine as much as possible. Sleep with wide open windows as much as possible, protecting the body with enough clothing, and the top of the head if necessary in cold weather. In the morning open the bed and give it a prolonged airing and direct sunshine if practicable. In the daytime the open-window ventilation of sleeping rooms may be brief in cold weather, if "wide-open windows" is the rule at night. Wear only just enough clothing for comfort day and night. Avoid chest-protectors and extra heavy under-clothing especially if you live indoors much. Eat temperately a sufficiency of plain, nutritious food,—a fairly "well balanced ration." Helpful advice may be had from the bulletin of the Department on "Food for the Family."

Keep clean, but use cold baths only when a comfortable reaction quickly follows. Undue exercise may be dangerous if lungs are affected. If there is prolonged loss of appetite, of strength, and of weight, with or without cough, and without other plain cause, there is reason to suspect tuberculosis. If present, the sooner you knew it, the quicker you can be cured.

B. Every new case of tuberculosis comes from some earlier case. The germs of this disease retain their vitality and their infectivity a long time under favoring conditions. Therefore do not bring into your house clothing formerly used by consumptives unless it has been thoroughly disinfected; do not move into an infected house or rooms, until the thoroughness of the disinfection of it is unquestionable; do not put to your lips or mouth, eating or drinking utensils, pipes, wind instru-

ments, money, or anything else that has been used or in the hands of consumptives; do not buy bread, milk, or other articles of food, not to be cooked that have been prepared or handled by tuberculous persons. Kissing, particularly lip-to-lip, is unsafe if one party to the act is tuberculous.

By strict observance of the rules which are expressed and suggested in the foregoing, the principal dangers of infection may be avoided.

The Cure.

For the residents of Maine who have lung trouble the most promising place for a cure is right here within their own state. Back from the coast a little, our year-round climate is better than that of many of the places which were in the past so much sought by the chasers of the climatic cure. Our summers have a favorable reputation, but patients under the sanatorium method of treatment in sanatoriums or at home under the care of their physicians, generally gain much more rapidly in winter than in summer.

Two things more frequently than any others work against the recovery of persons who have tuberculosis. One is that in so many cases of tuberculosis the true nature of the disease is not recognized while it is in the early stage, when it is much more easily cured than it would be later. The other is that many persons refuse to believe that they have tuberculosis until the evidence is so plain that the diagnosis of the physician is no longer needed.

The judgment of the physician that a person has tuberculosis, or probably has that disease, should be the signal for prompt action, by beginning treatment against the disease. All those changes that may be made in the direction of more healthful living will strengthen the resistance of the system against the action of the infection.

The lives of early tuberculosis cases are too frequently lost by consulting a second physician who pooh-poohs at the idea of tuberculosis when there is no positive evidence that the disease is not present. The diagnosis in the early stage of tuberculosis must and should often be made before the bacillus can be found in the sputum and before the examination of the chest can give any help. The physician is a life saver who promptly prescribes what may be required to prevent the incipient case of tuberculosis from becoming a plain case.

For many persons to whom it is available, the sanatorium treatment of tuberculosis of the lungs is more efficient and is usually better for the patient and his family than treatment at home. In the well-equipped special sanatorium the patient has the advantages of the constant care of the phy-

sician; the possibilities of the fullest outdoor life under congenial conditions; a specially nutritious diet; exercises regulated to the special needs of each patient or restraint from exercise when it would be harmful; baths for their curative influence; medical treatment, local or systemic, drugs or special apparatus as needed.

But many persons with tuberculosis must be treated in their homes, for the number of beds in the sanatoriums for tuberculous persons is much smaller than the number of such persons with us all the time. So, if an applicant finds that he cannot be admitted without delay, he should promptly begin to carry out at home the sanatorium method of treatment under the general care of his physician and aided in many important details by that circular of the State Department of Health on "How to Get Well From Lung Trouble."

Of the State Sanatoriums, one is in Hebron, one in Fairfield and one in Presque Isle. A patient wishing to receive treatment in one of the State sanatoriums should have his physician make the application on one of the blanks that may be had from the office of Dr. T. E. Hardy, Chairman, Board of Trustees, Waterville, Maine.

Beside these state institutions, and The Androscoggin Sanatorium in Lewiston, there is a private sanatorium for the treatment of tuberculous persons, the Maple Crest Sanatorium, East Parsonsfield, Maine. The medical director is Dr. Francis J. Welch, 698 Congress Street, Portland.

Disinfecting Solutions.

Solution 2. Lysol, 5 ounces; water, 1 gallon. Mix.

This, or still better, solution 8 may be used as a help in freeing the hands of infection, or for scrubbing up any spots on floors, furniture or other things that have been soiled by what is coughed up. Handkerchiefs or other uncolored fabrics may be soaked in solution 2 or 8 before they are boiled, and one of the solutions may be kept in metal or porcelain spit-cups or spittoons when these are used, but burning is the surest way of destroying fresh sputum.

Solution 7. Solution of Formaldehyde (Formalin), 6 ounces; water, 1 gallon. Mix.

This is not suitable for the disinfection of fresh sputum, but it may be used, as is more fully advised in Circular 220, for the disinfection of rugs, carpets, woolen clothing, lounges and other upholstered furniture, and floors, walls and other surfaces.

Solution 8. Upon two ounces (4 tablespoonfuls) of Kreso or Coro Noleum pour 1 gallon of lukewarm water. Shake or stir thoroughly.

For the disinfection of sputum use Solution 8 full strength. For other purposes use half strength.

(e) The local health officer was interviewed in regard to the control of an epidemic and his answer was to "close all schools and gatherings of peoples."

(f) The reporting of venereal diseases to the health authorities is carried out by the physicians sending all such reports directly to the state health department at Augusta. Should any person refuse to undergo a course of treatment he is reported to the health officer who in turn compels the patient by law to take such treatment as the physician in charge deems necessary. Only one such case has occurred in the town in the past three years. Various printed material is distributed for the purpose of education in sex hygiene. This material is given out primarily to the high school students by the school nurse.

Smash the Line!

The primary objective of the American men on the western front is to smash the enemy's line, to drive him back, weakened in morale and strategic position, until he is finally beaten.

The chiefs of the allied armies have been forced to rank suppression of vice and prevention of venereal diseases among the great problems of the war.

Venereal diseases are the "camp-followers" of prostitution and alcohol. They are a triple alliance behind the lines, and as much the foes of an army as the enemies in front.

Prostitution, alcohol and venereal diseases must be beaten, just as the enemy in front must be beaten, or they may cripple, even defeat, an army.

A soldier with syphilis or gonorrhœa, and one with a wound, are both out of the fighting and a drain on an army. But the former is the more serious, for his disability was preventable and in acquiring it he did not register a blow against the enemy in front but literally gave a victory to the enemy behind the lines. Nor does the consequence of his defection end there, for he may become a carrier of disease among his comrades.

During the first year of the war one nation had more men disabled from venereal diseases than from wounds and disabilities incident upon warfare.

A regiment stationed in a training camp sustained greater casualties from venereal diseases than did another (recruited at the time) in one of the bloodiest battles of the war.

The stronghold of this triple alliance for evil is the segregated or red-light district—the so-called "line." Here, prostitution,

fortified by official tolerance and supposed medical inspection, is strongest. It is in this segregated district, popular misconception to the contrary, that venereal diseases have their widest opportunity to spread, insidiously as a poison-gas attack, and wreak greatest havoc. A careful study shows that the majority of infections have resulted from commercialized vice, for the medical inspection of prostitutes is inevitably inadequate and futile. It is in the segregated district, too, that alcohol is invaluable as an aid to prostitution.

Remember that this problem of prostitution is a problem of public health as well as of morals; that the venereal diseases, in their malignancy, communicability, prevalence, and after-effects, constitute a more serious menace than any of the well-known diseases, such as typhoid, tuberculosis, or smallpox, all of which the community is fast learning to control.

We are warned to cherish no illusions as to the possibility of getting rid of the human instincts and appetites to which commercialized vice caters. But let us cherish no illusions either as to the indisputable fact that the volume of commercialized vice and of its by-product, disease, varies according as the attitude of the community toward vice is favorable, tolerant, or antagonistic. The effects of favor or tolerance to-day in the neighborhood of soldiers' camps and in the cities through which they pass will inevitably be seen in large percentages on the sick list instead of on the firing line.

It is a matter of community history that, *once smashed, this line of evil strength is never reorganized*. Why? Because, not segregation, but constant and persistent repression has proved the most effective method of fighting prostitution and its concomitant evils.

Every member of a community is commissioned by a national as well as a civic responsibility to become an active factor in the elimination of segregated districts.

THE TWO SIDES

It is claimed that

SEGREGATION:—

1. Concentrates prostitution, thus facilitating control and reduction.
2. Decreases prostitution by regulation.
3. Decreases venereal diseases through medical inspection.
4. Enables control of the liquor traffic in connection with prostitution.
5. Prevents crimes against women.
6. Protects the community from offensive and detrimental proximity of prostitution.
7. Decreases graft in connection with prostitution, and the exploitation of the prostitute.
8. Decreases crime by enabling police supervision of a recognized crime center.
9. Safeguards against sexual perversions by providing an outlet for the unrestrained sexual appetites of men.
10. Protects boys and young men from contact with the prostitute by removing temptation from the streets and residence districts.

The truth is that

SEGREGATION:—

1. Increases prostitution, continually advertising vice by making it familiar. Affords a place of commerce, otherwise uncertain and precarious, to the least competent of prostitutes, mentally and physically.
2. Increases prostitution by increasing the demand, which increases the supply.
3. Increases venereal diseases by deceiving the ignorant into a fancied reliance upon a frequently "faked" and inevitably futile medical inspection.
4. Stimulates an illegal liquor traffic, since commercialized vice fails without liquor.
5. Tends to increase crimes against women by fostering promiscuity and providing a source of sexual brutalization and degeneracy.
6. Exposes the community by advertising vice as a community necessity, making it easily accessible and tolerated, a condition conducive to the moral degradation of the community.
7. Increases graft, by illegal toleration of commercialized vice, tempting the police to exact illegal revenue and confer illegal privilege. Gives free rein to the exploitation of prostitutes.
8. Increases crime by fostering viciousness and disease, providing a meeting-place for the idle and vicious, with whom, rather than with the police, the prostitutes sympathize and usually coöperate.
9. Fosters sexual perversions and abnormalities by educating men in habits of promiscuous sex relations until they cannot be satisfied by the professional prostitute except by perversions which she is compelled to practice.
10. Exposes boys and young men to contact with the prostitute by presenting an ever-present opportunity to "go down the line and see the sights." Provides a show-place for special obscene and depraved exhibitions, to which the youth is lured by "runners" and the sale of lewd pictures.

SUMMARY

SEGREGATION DOES NOT SEGREGATE

The bulk of prostitution is never confined to a single locality. Most prostitutes don't and won't live in a red-light district if they can help it, since it contains, as a rule, only a comparatively small number of hardened prostitutes, the mental ineffectives and defectives and those eaten up by venereal disease. These accept the district as inevitable because it offers a mart for the barter of their wares, inasmuch as they are incapable of competing with the shrewder and more attractive free-lance prostitute who operates by choice outside the district.

SEGREGATION INCREASES PROSTITUTION

Segregation increases the demand for prostitutes and inexorably this demand increases the supply. The known existence of a red-light district, its adventitious glamor to the uninitiated, its ease of access—these are a persistent lure to boys with a taste for adventure and men with ungoverned sexual appetites. The hideous excesses required of inmates of houses of prostitution quickly render them diseased and unattractive, and others must be drafted into service.

SEGREGATION AUGMENTS SYPHILIS AND GONORRHOEA

Medical inspection, a supposed benefit of segregation, is inevitably inadequate. Concealment of venereal infection by prostitutes is possible in a large number of cases, and the physician's opportunity for diagnosis is limited. Further, there is a temptation to issue false "health certificates" for a substantial fee. Regardless of a "clean bill of health," the prostitute's condition is no less dangerous. For there is no way of inspecting the man, and *the prostitute may become a conveyor of disease germs through the first man she serves after receiving the "health certificate."* She may be a disease carrier without showing infection.

SEGREGATION INCITES ILLEGAL LIQUOR TRAFFIC

There is a recognized partnership between the red-light district and the illegal liquor traffic. The house of prostitution must have liquor to stimulate its guests to debauchery—to "promote good fellowship." Efforts to control the segregated districts by elimination of saloons and liquor-selling dance halls have invariably

resulted in wholesale violations and evasions of the liquor laws. To a large extent, prostitution is artificially stimulated by those who have commercialized it, and liquor is the chief agent for "whipping it up" to the point where it yields the greatest dividends to its backers. Commercialization is seriously handicapped without segregation.

Segregation creates an illegally privileged class. It benefits only, as a rule, the worst type of prostitutes who, otherwise, could not gain a livelihood by their trade, and unscrupulous property owners to whom it is the source of inflated rentals wrung from this market-place for the barter of human bodies.

Segregation is the enemy of health, morality, economic efficiency and good government. It facilitates the spread of two of the communicable diseases most dangerous to men, women, and children—gonorrhœa and syphilis!

It lowers the moral tone of the individual and the community. It results in millions of dollars of waste by increasing prostitution and disease. It undermines good government because the object of good government is "to make it easy for the citizen to do right and difficult for him to do wrong."

There are two vitally important reasons why every citizen must fight the segregated district:—

1. Because the elimination of the segregated district and consequent repression of prostitution will be mighty factors in winning the war!
2. Because, in this way only, can the finest civilization be promoted, the highest ideals and the greatest economic efficiency be developed—after the war is won!

YOUR RESPONSIBILITY

It is a matter of urgent military efficiency that the community be made safe for the soldier.

It is the business of the War Department to see that the soldier is made safe for the community.

This is **YOUR** business, whether you be citizen or soldier.

Published originally by The War Department Commission on Training Camp Activities.

"The War Department will not tolerate the existence of any restricted district within an effective radius of the camp. Experience has proved that such districts in the vicinity of army camps, no matter how conducted, are inevitably attended by unhappy consequences. The only practical policy which presents itself in relation to this problem is the policy of absolute repression, and I am confident that in taking this course the War Department has placed itself in line with the best thought and practice which modern police experience has developed. This policy involves, of course, constant vigilance on the part of the police, not only in eliminating regular houses of prostitution, but in checking the more or less clandestine class that walks the streets and is apt to frequent lodging houses and hotels."

NEWTON D. BAKER.

Extract from a letter sent by the Secretary of War to the mayors of the cities and the sheriffs of the counties in the neighborhood of all military training camps. August 10, 1917.

OTHER PAMPHLETS

The following pamphlets, explaining the campaign against venereal disease and presenting the true facts of sex in a wholesome manner, will be sent to any address without charge:

Set A. For young men.

Set B. For public officers and business men.

Set C. For boys.

Set D. For parents of children.

Set E. For girls and young women.

Set F. For educators.

Send for only those pamphlets for which you have definite use. Address:

STATE DEPARTMENT OF HEALTH

Augusta, Maine.

Sexual Hygiene for Young Men

By WILLIAM T. BELFIELD, M.D.

Professor of Genito-Urinary Surgery, Rush Medical College, University of Chicago, Secretary of the Chicago Society of Social Hygiene

The average young man receives no information about sexual matters at home; but he gets it abroad, from ignorant associates, and through secret experiences—often at serious loss of health, money, self-respect, and business success. In the hope that some who read this leaflet may thereby escape such needless sacrifice, some facts well known to all physicians are herewith presented.

SELF-ABUSE ¹

The first function of the reproductive organs is to rebuild the boy into a man. A boy deprived of these organs in childhood (by castration) never becomes a perfect man in either body or mind; and a boy who abuses these organs before he attains manhood risks the loss of the manly perfection that he might otherwise attain. Most of these boys fortunately discontinue this habit before permanent injury is sustained.

SEMINAL EMISSIONS ²

These occur during sleep in perfectly healthy young men; they do not indicate an unhealthy condition of the sexual organs unless they take place oftener than once in ten to fourteen days. The so-called medical museums and newspaper advertisements and pamphlets of quacks are designed to frighten ignorant boys and young men into paying heavily for unnecessary treatment.

When emissions occur too frequently the cause is often sexual excitement in thought or deed, lack of physical exercise, overeating,

¹ *Self-abuse* is the common expression for the medical term masturbation, which is used to designate the excitement of the sex organs by friction with the hand.

² *Seminal emissions* is the medical phrase for discharge of fluid from the sex organs of the male during sleep.

or drinking of alcoholic beverages. All these habits are injurious to the body in general and to the sexual organs in particular. A young man who takes plenty of muscular exercise, eats moderately, avoids constipation and alcoholic drinks, and keeps his attention diverted from lewd subjects, will seldom need medical treatment for seminal emissions.

ADVERTISING "SPECIALISTS"

Most boys and young men receive no information whatever concerning sexual matters from their fathers, or other honest, friendly counselors. Fathers, however careful and conscientious in the instruction of their sons in all other matters, shirk this duty because it is a delicate and unpleasant task. Because of this ignorance, young men become the easy dupes of the numerous confidence operators who in paid advertisements style themselves "specialists," etc., and profess to be skilled in the treatment of "nervous debility," "lost manhood," "varicocele," etc. These men know that most boys have practised or learned something about self-abuse; that all young men have nocturnal emissions; that few young men consult their fathers about these matters; hence boys and youths swallow as truth the stuff which the "specialist" cunningly prints.

Probably half the young men in the country have been at some time secretly terrified by reading in such advertisements that nocturnal seminal emissions are evidences of grave disease of the sexual organs which will surely result in insanity, "loss of manhood," etc., unless the frightened youth employs the marvelous skill of the advertiser. And the ignorant boy, being ashamed or afraid to consult his father about the matter, falls into the trap.

Reputable clergymen, lawyers, and physicians never solicit business by advertising; beware of the doctor who does so. The young man should seek medical advice from his family physician whom he can safely trust as honest adviser and confidential friend. A few words of sound medical advice often save a young man months of secret, needless alarm, as well as considerable money.

SEXUAL INDULGENCE IS NOT NECESSARY TO HEALTH

Many young men harbor the erroneous idea that the reproductive organs, like the muscles, are developed through exercise and become weak through disuse. If that were true, the boy who exer-

cises them regularly from his tenth year onward should have the greatest sexual power—but everyone knows this to be the reverse of the truth. The testes are glands producing a fluid, like the tear glands or the sweat glands. The sexual power is never lost through abstinence from sexual intercourse, any more than the ability to weep is lost through abstinence from weeping. Impotence, or “loss of manhood,” is usually the direct result of gonorrhœa¹ or syphilis² (venereal diseases³) or of sexual excesses.

That sexual intercourse is, so far as mere physical health is concerned, absolutely unnecessary, is easily shown; the mere fact that the exemplars of physical prowess in all ages, including Roman gladiators and modern pugilists, have commonly abstained from sexual intercourse during the long periods of strenuous training for the physical perfection essential to successful combat, is expert evidence that sexual indulgence is not essential to supreme physical health; and it is notorious that the premature downfall of many professional pugilists of our day is due to excesses with women and wine when they are not in training. Two of the most famous amateur athletes that the writer has known intimately—one a noted heavyweight boxer, the other the pride of a university baseball nine—abstained entirely from sexual indulgence (and incidentally from alcoholics); and there are many such.

SELF-CONTROL IS A MARK OF MANLINESS, NOT OF EFFEMINACY

In the egotism of early manhood, we “know it all”; we are vain, impulsive, well-meaning beginners, with exuberant spirits and little wisdom—the latter grows with the penalties that punish our ignorant mistakes. One of these mistaken ideas is that self-indulgence, especially with wine and women, is the mark of manliness; and that a young man who refuses to join his comrades in getting

¹ *Gonorrhœa*, often called “the clap,” is a dangerous communicable disease caused by a germ called the gonococcus. It produces an inflammation of the urinary channel and may extend into the deeper tissues, or into the joints and other parts of the body. It frequently results in a chronic discharge called gleet.

² *Syphilis* is a dangerous communicable disease caused by a specific germ called the *treponema pallida*. The terms lues and pox also apply to this disease. Advertisements of so-called sex remedies frequently speak of syphilis as “blood poison.”

³ *Venereal disease* is a term used to include gonorrhœa and syphilis.

drunk, or visiting lewd women, is an effeminate "goody-goody." The fear of such ridicule has been the chief reason for much drunkenness and venereal disease.

With more years and wisdom, young men realize that a man gets drunk not because he has physical strength and courage, but because he lacks mental strength and courage; not because he is strong, but because he is weak. The folly of drunkenness ruins far less young men now than it did fifty years ago.

The folly of patronizing prostitutes and contracting their venereal diseases is gradually dawning on the rising generation, through education. One of the chief benefits of present-day athletics has been the demonstration to multitudes of young men that physical strength and courage are often combined with total abstinence from drunkenness and debauchery. Young men in increasing numbers are realizing that the control of their sex impulses is in the interest of their own careers and of their future wives and children.

SYPHILIS AND GONORRHOEA

(The Venereal Diseases)

1. Prostitutes, public or private, acquire venereal disease sooner or later; hence most of them are diseased some of the time, and some of them practically all of the time. The man who patronizes them risks his health at every exposure.

2. Medical inspection is an advantage to the business of the prostitute because it gives her patrons a sense of security. But inspection provides no real security, for even the most painstaking examination—and such is not bestowed upon the prostitute—may fail to detect a woman's lurking disease.

3. The many antiseptic washes, lotions, and injections upon which the ignorant rely for protection from disease, are inefficient, because the skin and mucous membranes into which the germs have quickly penetrated act as a wall, preventing the antiseptic from reaching them.

4. Gonorrhœa, while usually cured without apparent loss of health, has always serious possibilities. It is estimated that it ultimately kills at least one in two hundred; it permanently maims one in a hundred; it impairs the sexual power and fertility of a

much larger number; it often produces urethral stricture,¹ which later may cause loss of health and even of life; and in many cases it causes chronic pain and distress in the sexual organs, with severe mental depression. The loss of health, time, and money entailed by these sequels and their treatment may far exceed that occasioned by the original disease.

The prevalent notion among the uninformed that gonorrhœa is a mere annoyance, "no worse than a cold," is based entirely upon lamentable ignorance, and is absolutely false.

5. The persistence of this disease in the deeper parts long after it is outwardly cured, leads to the unsuspected communication of the disease to women with whom the individual may cohabit. Among these women may be his bride, who thereupon enters upon a period of ill-health that may ultimately compel the mutilation of her sexual organs by a surgical operation or cause the loss of her life. Much of the surgery of these organs performed upon women has been rendered necessary by gonorrhœa contracted from the husband. Should she, while infected² with this disease, give birth to a child, the baby's eyes may be attacked by the infection, sometimes with loss of sight.

6. The other serious venereal disease, syphilis, infects the blood and therewith all parts of the body. For months after infection with this disease, the individual may communicate it by cohabitation or occasionally by personal contact, such as a kiss; and articles moistened by his secretions—towels, drinking glasses, pipes, etc.—may sometimes convey the infection. While, under proper treatment, the disease is not dangerous to the individual's life in the earlier years, yet the possibilities of transmitting the contagion should forbid his marriage for at least three years, or longer if the physician so advises.

7. The most serious results of syphilis appear years after its acquisition, when the individual has been lulled into a false sense of security by long freedom from its manifestations, and considers himself cured. It may attack any organ of the body; among the

¹ *Urethral stricture* means an abnormal narrowing of the canal which conveys urine from the bladder to the surface of the body. In the male this canal also carries the semen when it is discharged during sexual intercourse.

² *Infection* is a medical word generally used to designate the process by which living disease-producing germs, after gaining entrance to the body, grow and injure the tissues.

many diseases produced are apoplexy,¹ paralysis,² insanity,³ and locomotor ataxia;⁴ and these often appear after the man has a family dependent upon him for support.

8. The disaster to the individual wrought by syphilis is shown in the attitude of the leading insurance companies toward those so infected—a purely business proposition devoid of all sentimental considerations. They refuse to insure the life of a syphilitic person for four or five years after the disease was contracted, and then only upon special terms, for their records prove that syphilis shortens life, and that the death rate for those who have had syphilis is double the rate for those who have never contracted it.

9. That the syphilitic parent may transmit the disease to his offspring is common knowledge; some of his children are destroyed by the inherited disease⁵ before birth; others are born to a brief and sickly span of life; others attain maturity, seriously handicapped by a burden of ill-health, incapacity, and misery produced by the inherited taint; while still others apparently escape these evil effects.

10. The man who contracts either gonorrhœa or syphilis should realize that the best use he can make of his time and money is in having the disease promptly and thoroughly treated. He should consult an honest, competent physician immediately—not an advertising faker. He should waste no time in trying some drug-store remedy, or some medicine recommended by a friend; he would not have his broken leg treated that way, yet these diseases are far more serious than a broken bone, since they may destroy health or even life itself. The sooner he secures skilful treatment, the better is his chance of escaping these disasters. If he has no money he can secure free treatment at a dispensary. Moreover, he should understand that an apparent cure is not always a real cure; the germs of gonorrhœa or of syphilis may lurk in the deeper parts long after the outward symptoms have disappeared. Only a com-

¹ *Apoplexy* refers to sudden paralysis and profound stupor caused by bleeding into the brain or spinal cord.

² *Paralysis* means a loss of motion or sensation in some part of the body.

³ *Insanity*, in medical language, means disorder of the mental faculties, more or less permanent in character but without loss of consciousness or will.

⁴ *Locomotor ataxia* means failure of muscular coordination and other changes due to degeneration of certain parts of the spinal cord and sensory nerves.

⁵ *Inherited syphilis* means syphilis implanted in the child before birth.

petent physician can give intelligent and reliable assurance that the disease is really eradicated. Until such assurance is secured, the patient should not marry.

THE SINGLE STANDARD OF MORALITY

This leaflet has purposely been limited to facts about the functions and diseases of the sex organs. But every man should know that sex relations outside of marriage not only expose him to diseases which may prove disastrous to himself and to others, but will unfit him for his highest efficiency as citizen, husband, and father. Society has a right to expect that he shall set for younger men an example of self-respect and self-control. Moral living is not "goody-goody" effeminacy; it is based upon the experience and suffering of past generations. It has the backing of religious belief, but does not depend upon it. Both self-interest and love for others demand it. It is a part of true manhood.

This pamphlet was originally prepared for The Chicago Society of Social Hygiene in 1907.

PAMPHLETS OF INFORMATION

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- Set B. For public officers and business men.
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Send for only those pamphlets for which you have definite use. Address:

STATE DEPARTMENT OF HEALTH
Augusta, Maine.

Permanent Organization
For Combating Venereal Diseases
The American Social Hygiene Association
105 West 40th Street, New York City

For Girls



*Issued in co-operation with the UNITED STATES
PUBLIC HEALTH SERVICE by the Department
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CIAL HYGIENE ASSOCIATION, Incorporated,
105 West Fortieth Street, New York City*

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HEALTH
Augusta

FALSE MODESTY AND KNOWLEDGE

Most girls *like to know* how to keep attractive, clean and wholesome.

They *should know* correctly those things that they learned about in the wrong way, or have not learned about at all.

Modesty in women is desirable, but false modesty under the badge of ignorance is deplorable. A woman's health and happiness largely depend on proper knowledge.

For that reason the United States Government wants women and girls to know about Venereal Diseases.

Girls, as well as women, should know that Venereal Diseases are prevalent to-day; that they are "catching" in many instances; that they are causing many unhappy marriages, resulting in blind and defective children; and that many women, otherwise healthy and strong, are being made invalids for life through neglecting Venereal Diseases.

They should know also that "quack" or advertising "specialists" do them more harm than good, and that the United States Public Health Service and the City and State Boards of Health are now giving out proper information and advice about Venereal Diseases as a

necessary step in preventing a Venereal Disease plague from sweeping over the country.

FROM THE SURGEON-GENERAL

IN ORDER that girls and women—especially those in the shop, store and office—may know about Venereal Diseases in the right way, the Surgeon-General of the United States Public Health Service is directing the production and distribution of proper information. Consequently this pamphlet has been prepared. Similar booklets have been prepared for men.

Venereal Diseases are often spoken of as "sex diseases." They are more than that. They are social diseases no less than tuberculosis (consumption) and smallpox. It is because false modesty has kept people from talking about sex diseases in the right way that the Surgeon-general has decided that safe and sane information must be given out in an effort to reduce a national health menace.

Girls *should not be hysterically alarmed* by the following facts, but they should consider what is written here as they would *advise from their family doctor*, and do what they can to help the Government stamp out diseases which may become a national health plague

if men and women continue to be ignorant and prudish.

WHAT VENEREAL DISEASES ARE

THERE are two important Venereal Diseases. They are called Syphilis and Gonorrhea. The latter is sometimes called "clap." There are other slang names for them.

They are both germ diseases and are communicable (catching). They are transmitted by one person to another. They are called Venereal Diseases because most frequently they are carried from one person to another through sex relations. Both are very serious diseases. Syphilis kills many thousands each year. Chancroid, or "soft chancre," is another Venereal Disease, but it is much less dangerous than Gonorrhea or Syphilis.

HOW VENEREAL DISEASES ARE CONTRACTED

Most cases of Syphilis and Gonorrhea result from sexual relations outside of marriage. Women who make a business of prostituting themselves for money or otherwise almost always contract one of the Venereal Diseases. But it is by no means only these women—the

prostitutes—who have them. The men who have relations with these prostitute women often contract these diseases, and unless entirely cured spread them to members of their own family or to innocent and healthy girls whom they marry.

Syphilis and Gonorrhea may be contracted by one misstep. Any girl, therefore, who allows a man to have improper relations with her runs the risk of becoming diseased. Her parents should even insist upon the man she marries being sure he has not contracted either disease, or if he has, that he is thoroughly cured by a good doctor before he marries. *A man who asks a girl for sexual relations outside of marriage has, it is reasonably safe to assume, exposed himself to venereal diseases by his past conduct.*

Kissing sometimes spreads the disease. Some cases are also acquired by contact with germs left on articles used by someone who has one of these diseases. For this reason the Venereal Disease menace lurks in public drinking cups, towels, etc. When it is necessary to use public toilets care should be taken. People who take precautions and do not have sex relations outside of marriage are in little danger of acquiring the diseases.

THE SYMPTOMS OF VENEREAL DISEASES

SYPHILIS. It is a disease which runs through three stages. It has many reasonably clear symptoms, but the only sure way that a doctor may know is by a laboratory test. Syphilis usually starts as a small sore—so small sometimes that it may not be noticed—at the place where the germs were transmitted from one person to another. Later it may develop into a skin rash or ache or pain or an ulcer or take some other form. However, pimples or skin rash *do not* always indicate Syphilis and should not cause undue alarm.

Gonorrhea. The symptoms of this disease are usually a thick, yellowish discharge from the sex organs accompanied by burning pains. *However, a discharge does not necessarily mean gonorrhea.* Gonorrhea may also exist where there is no noticeable discharge and consequently buries itself in the internal organs before the victim is aware of its presence, only to break out later on in life. An examination by a good doctor is necessary wherever Gonorrhea is suspected, and should be followed by proper treatment. Sometimes

children born of diseased parents are infected with the germs, and blindness may result.

Sometimes a discharge from the vagina may be leucorrhea, commonly called "the whites." Many girls and women suffer from leucorrhea, which may result from a cold or wet, chilled condition, long standing or carrying heavy bundles, going from overheated rooms into the cold air thinly clad, sex excitement or lack of cleanliness, worry or run-down condition.

Leucorrhea, or "the whites," may hide gonorrhea germs, and consequently a girl or woman suffering from it should see a good doctor.

THE TREATMENT OF VENEREAL DISEASES

VENEREAL DISEASES can be cured by a good doctor if the patient will take steady treatment. It is never safe to use patent medicines. It is dangerous to go to "quack" doctors or to doctors who advertise. Such doctors are almost always fakes and are mainly after money.

Delay or lack of continued proper treatment means trouble. After the diseases get to an advanced stage it is very difficult and sometimes impossible to cure them.

For this reason free clinics, where free or inexpensive treatment will be given to all who apply, have been established by Boards of Health and the United States Public Health Service throughout the country. Information as to their location may be obtained by writing to the State Board of Health at the state capital.

THE EFFECTS OF VENEREAL DISEASES

VENEREAL DISEASES usually cause a great deal of pain and discomfort in the early stages, but it is their effects after the early stages that makes them so very serious, and produce tragic results.

Syphilis, uncured, in its final stages causes locomotor ataxia and other forms of paralysis; paresis, or softening of the brain; certain forms of insanity; miscarriages; diseases of the heart, blood vessels and other vital organs.

Gonorrhea may not only mean a life of invalidism, but may make a serious surgical operation necessary or may result in certain forms of rheumatism or in diseases of the joints, bladder and generative organs. Occasionally, though seldom, young girls acquire gonorrhea innocently from toilets, towels, cups, etc., on

which the gonorrhea germ has been left by an infected person.

Syphilis and gonorrhea are most serious in their effect on children born of diseased parents. Syphilis is one of the most frequent causes of miscarriages, still-births, and infant deaths. Many children born alive of parents who have syphilis grow up defective or weak-minded. Gonorrhea is a very frequent cause of sterility (inability to have children). It also causes many cases of infant blindness.

WHAT YOU CAN DO ABOUT IT

RELIABLE information for both men and women can now be easily obtained, and there is no longer any cause for the false ideas which so many people have about syphilis and gonorrhea.

You can help to prevent the spread of Venereal Diseases if you know that immoral relations cause most of the cases of venereal diseases. There are girls in every community who are near the danger point and who are pitifully ignorant of the diseases that await them. They enter into immoral relations more out of curiosity than because they are "bad" at heart. Women and other girls can help these

girls to keep from "going wrong" by giving them proper advice, in a proper spirit.

Women and girls also may help men to follow the single standard of conduct. They should no longer excuse immoral indulgence in men. It is too dangerous to the health of the men themselves and their future sweet-hearts, wives and children, and above all to the nation.

LOCATION OF U. S. CLINICS

THE CITY, County and State health authorities in all communities are being asked to co-operate with the U. S. Public Health Service in stamping out Venereal Diseases, and anyone desiring information or advice as to treatment should communicate with the local or State health officer. If the local health officer cannot be reached readily, apply to the nearest good hospital. Clinics or treatment stations, where free or inexpensive treatment will be given, have been established under the supervision of or in co-operation with the Public Health Service at the following places, and this list is being added to steadily:

ALABAMA. **Anniston:** Venereal Disease Clinic, Smith Bldg.; **Birmingham:** Venereal Disease Clinic; **Huntsville:** Clinic, Milligan Bldg.; **Mobile:** City Hospital Dispensary; **Montgomery:** Room 205, Bell Bldg.; **Talladega:** Third Floor, Boynton Bldg.; **Tuscaloosa:** County Clinic, City Hall.

ARKANSAS. **Hot Springs:** Levi Memorial Hospital, Prospect Ave. & Quapaw St.; **Little Rock:** 604 E. 2nd St.; **Pine Bluff:** Pine Bluff Free Clinic.

CALIFORNIA. **Bakersfield:** Kern County Hospital, 3100 19th St.; **Berkeley:** Berkeley Dispensary, 830 University Hospital; **Fresno:** City Hall Basement; County Hospital Clinic, Ventura Ave.; **Los Angeles:** Boyle Ave. Dispensary, 304 Boyle Ave.; County Hospital, 1100 Mission Rd.; Juvenile Hospital, 711 Eastlake Ave.; Los Feliz Hospital, 1450 Los Feliz Rd.; Health Department Clinic, Temple Block; Graves Memorial Dispensary, 737 N. Broadway; University of Southern California, East Washington St.; **Oakland:** Clinic of Oakland College of Medicine and Surgery, 31st & Grove Sts.; **Pasadena:** Pasadena Dispensary, Congress St. near Fair Oaks; **Sacramento:** City Dispensary, 6th & H Sts.; **San Bernardino:** Second Floor, Hall of Records; **San Diego:** County Dispensary, Court House; Mission Valley Hospital; **San Francisco:** College of Physicians and Surgeons, 344 Fourteenth St.; Children's Hospital Dispensary, 3700 California St.; Mt. Zion Hospital Dispensary, Scott & Post Sts.; Polyclinic and Post Graduate College, 1535 Jackson St.; Health Department Clinic, 1083 Mission St.; Stanford Free Clinic, Sacramento & Webster Sts.; University of California Hospital (Out-patient Dispensary), 3rd & Parnassus Sts.; **San Jose:** Good Cheer Club Clinic, Porter Bldg., 2nd & Santa Clara Sts.; **Santa Barbara:** Cottage Dispensary, 4th Ave. & Santa Barbara St.; **Stockton:** City Clinic, Room 6, Mail Bldg.; **West Orange:** Orange County Hospital.

Colorado. Denver: Dispensary Bldg., 1307 Welton St.

CONNECTICUT. Bridgeport: Health & Charity Bldg., Washington & Madison Sts.; **New Haven:** 321 Congress Ave.; **New London:** 35 Church St.; **Stamford:** Town Hall.

DELAWARE. Wilmington: 14th & Washington Sts.

DISTRICT OF COLUMBIA. Washington: 405 Fifteenth St., N. W.

FLORIDA. Arcadia: National Bank Bldg.; 114-115 De Soto St.; **Jacksonville:** Clinic, 216 W. Adams St.; **Key West:** Mercedes Hospital; **Miami:** Clinic, Old City Hospital, 4th Ave.; **Tampa:** Ground Floor, City Hall.

GEORGIA. Athens: Clinic; **Atlanta:** Emory Clinic, Armstrong St.; **Augusta:** Medical College; **Brunswick:** 1304 Richmond St.; **Columbus:** 18th St. & 8th Ave.; **Macon:** Macon Hospital, 820 Pine St.; **Savannah:** United States Marine Hospital.

ILLINOIS. Chicago: Chicago Free Dispensary, 1744 W. Harrison St.; Illinois Social Hygiene Dispensary, 118 W. Grand Ave.; Northwestern University Hospital, 432 S. Lincoln St.; U. S. Marine Hospital, 4141 Clarendon Ave.; **East St. Louis:** Basement of City Hall.

INDIANA. Anderson: City Hall; **Columbus:** 409 1-2 Washington Ave.; **East Chicago:** 914 Chicago Ave.; **Evansville:** Court House; **Indianapolis:** U. S. P. H. S. Clinic, Senate & Market Sts.; **Michigan City:** U. S. P. H. S. Clinic, County Bldg.; **Muncie:** U. S. P. H. S. Clinic, Suite 8, Nealy Block; **Terre Haute:** U. S. P. H. S. Clinic, 4th & Walnut Sts.

IOWA. Carroll: St. Anthony's Hospital; **Clinton:** 217 Fifth Ave.; **Council Bluffs:** 1820 W. Broadway; **Davenport:** 415 Lane Bldg.; **Des Moines:** 405 Center St.; **Sioux City:** 210 Davidson Bldg.; **Waterloo:** 618 Blacks Bldg.

KANSAS. Atchison: City Clinic, City Bldg.; **Eldorado:** Free Clinic, 1241-2 W. Central St.; **Leavenworth:** Clinic, Post Office Bldg.; **Rosedale:** Bell Memorial Hospital (Out-patient Dept.), University of Kansas; **Topeka:** Third Floor, City Bldg.; **Wichita:** City Hall.

KENTUCKY. Louisville: Floyd & Chestnut Sts.

LOUISIANA. Alexandria: Room 269, Commercial Bank Bldg.; **New Orleans:** Charity Hospital, Tulane Ave. & Villere St.; **Touro Infirmary,** 3516 Prytania St.; **Shreveport:** Charity Hospital, 1240 Texas Ave.

MAINE. Augusta: Health Center, 207 Water St.; **Bangor:** Eastern Maine General Hospital (Out-patient Dept.), State St.; **Bath:** Bath Health Center, Post Office Bldg.; **Calais:** Calais Hospital, Church St.; **Portland:** Mason Dispensary, 65 India St.; **Maline Eye & Ear Infirmary,** Congress & Bramhall Sts.; **City Hospital,** 1151 Brighton Ave.

MARYLAND. Baltimore: Baltimore General Dispensary, Paco & Fayette Sts.; Johns Hopkins Dispensary, Monument St. & Hopkins Ave.; Mercy Hospital Dispensary, Calvert & Saratoga Sts.; Western Medical Agency, 1220 McCulloh St.; **Cumberland:** Clinic, City Hall.

MASSACHUSETTS. Attleboro: Sturdy Memorial Hospital, 211 Park St.; **Boston:** Boston City Hospital, 818 Harrison Ave.; Boston Dispensary, 25 Bennett St.; Massachusetts General Hospital; Massachusetts Homeopathic Hospital, 82 Concord St.; **Brockton:** Brockton Hospital, Center St.; **Fall River:** City Hospital, Stanley St.; **Fitchburg:** Board of Health Clinic, 444 Water St.; **Lawrence:** Board of Health Clinic, 37 Jackson St.; **Lowell:** Corporation Hospital, Merrimack St.; **Lynn:** Lynn Hospital, 206 Lewis St.; **New Bedford:** Board of Health Clinic, 598 Pleasant St.; **Pittsfield:** House of Mercy, 741 North St.; **Salem:** Salem Hospital, 31 Charter St.; **Worcester:** 162 Chandler St.

MICHIGAN. Battle Creek: Room 29, City Hall; Bay City: Civic League Free Dispensary; Detroit: Harper Hospital (Out-patient Dept.), 509 John R. St.; Board of Health, 33 Mullett St.; Jackson: Foote Memorial Hospital Clinic, North East Ave.; Flint: Board of Health Clinic, 3rd & S. Saginaw Sts.; Grand Rapids: City Hall; Lansing: Venereal Disease Clinic; Ann Arbor: University of Michigan.

MINNESOTA. Duluth: Dispensary St. Mary's Hospital, 3rd St. & 5th Ave., E.; Minneapolis: Board of Health Clinic for Women, City Hospital; Clinic, City Hospital; University of Minnesota, Washington Ave. & Union St.; St. Paul: St. Paul Dispensary, 204 W. 9th St.

MISSISSIPPI. Columbia: Columbia Infirmary; Hattiesburg: Clinic, City Jail; Kings Daughters' Hospital, 610 Bay St.; Jackson: State Charity Hospital, North State St.; Laurel: Mississippi Charity Hospital; Meridian: Matty Heron Hospital, 2023 Marlon Park; Natches: Natches Hospital (Out-patient Dept.), Cemetery St.

MISSOURI. Joplin: City Hall, 205 Joplin St.; Kansas City: 6th & Walnut Sts.; St. Louis: Municipal Courts Bldg.

MONTANA. Billings: Clinic, Babcock Theatre Bldg.; Butte: Clinic, Phoenix Bldg.

NEBRASKA. Lincoln: City Health Dept. 527 Security Mutual Bldg.; Free Dispensary, University of Nebraska, 1716 Dodge St.; Omaha: Creighton Medical College Clinic, 14th & Davenport Sts.

NEW HAMPSHIRE. Manchester: 102 Merrimack St.

NEW JERSEY. Asbury Park: Asbury Park Hospital (Out-patient Dept.), Asbury Ave. & Comstock St.; Bayonne: Clinic, 12 E. 30th St.; Camden: Cooper Hospital; Elizabeth: Reid & East Jersey Sts.; Jersey City: Clinic, Mu-

nicipal Bldg., Baldwin Ave.; Newark: City Dispensary, Plane & Williams Sts.; Orange: Memorial Hospital Dispensary, 66 Henry St.; Plainfield: Venereal Disease Clinic, Park Ave.; Trenton: City Dispensary, City Hall.

NEW YORK. Albany: South End Dispensary, Ash Grove & Trinity Place; Amsterdam: 22 Market St.; Batavia: Health Clinic, Rooms 13 & 14, City Hall; Bath: Pleasant Valley Sanitarium; Binghamton: Binghamton Dispensary, 71-73 Collier St.; Clinic, Municipal Hospital, 770 E. Perry St.; Brooklyn: Brownsville Venereal Disease Clinic, 64 Pennsylvania Ave.; The Brooklyn Hospital Dispensary, Raymond St. & DeKalb Ave.; Prospect Clinic, Flatbush Ave. & Willoughby St.; Polhemus Memorial Clinic, Henry & Amity Sts.; Buffalo: Health Center, No. 5, 51 Court St.; Dunkirk: 510 Deer St.; Gloversville: 21 W. Fulton St.; Ithaca: Clinic, 125 Farm St.; Jamestown: 507 Washington St.; Johnstown: Johnstown Health Clinic, 10 S. William St.; Kingston: City Clinic, 74 John St.; Little Falls: Clinic; Middletown: 66 E. Main St.; Niagara Falls: Clinic, 508 Pine Ave.; Oswego: Oswego Hospital; Poughkeepsie: Clinic, 24 Washington St.; Rochester: Health Bureau, 82 Chestnut St.; Social Settlement, 150 Baden St.; General Hospital, 501 W. Main St.; Rome: 245 E. Dominick St.; Schenectady: Public Health Center, 412 Liberty St.; Syracuse: Free dispensary, 610 E. Fayette St.; Troy: Clinic, Samaritan Hospital, Peoples & Burdette Ave.; Utica: Utica Dispensary, 224 Mary St.; Yonkers: Public Health Clinic, City Hall.

NEW YORK CITY. Bellevue Hospital, 1st Ave. & 26th St.; Beth Israel Hospital, 70 Jefferson St.; Cornell Medical College Dispensary, 1st Ave. & 28th St.; Good Samaritan Dispensary, Essex & Broom Sts.; Lenox Hill Dispensary, Park Ave. & 76th St.; Mt. Sinai Hospital, Madison Avenue & 100th Street; New York Hospital Dispensary, 323 W. 42nd St.; New York Skin & Cancer Hospital, 2nd Ave. & 19th St.; New York Skin & Cancer Hospital (Out-patient

Dept. No. 1), 243 Barge Office; New York Skin & Cancer Hospital (Out-patient Dept. No. 2), 2nd Ave. & 19th St.; Public Health Service Clinic, 313 E. 19th St.; Roosevelt Hospital, 440 W. 59th St.; St. Luke's Hospital, Amsterdam Ave. & 113th St.; Vanderbilt Clinic, Amsterdam Ave. & 60th St.; West Side German Dispensary, 328 W. 42nd St.; Wyckoff Heights Hospital; Washington Clinic, Dept. of Health, 128 Price St.; Bronx Tremont Clinic, 490 St. Pauls Place; Post Graduate Medical School & Hospital, 303 E. 20th St.; Harlem Hospital, 136th St. & Lenox Ave.; Chelsea, 307 W. 33rd St.; St. Mark's Hospital, 175 2nd Ave.

NORTH CAROLINA. Asheville: Clinic, Library Bldg.; Charlotte: Genito-Urinary Clinic, Realty Bldg.; Fayetteville: Clinic, City Hall; Rocky Mount: City Clinic, Dept. of Health; Wilmington: Clinic, Front & Market Sts.; Winston-Salem: Clinic, O'Hanlon Bldg.

NORTH DAKOTA. Fargo: Clinic; Minot: Clinic.

OHIO. Akron: Clinic, 13th & 250 Butchell Ave.; Alliance: 448 E. Main St.; Chillicothe: 121 W. Main St.; Cincinnati: General Hospital (Out-patient Dispensary), Goodman & Bennett Aves.; U. S. P. H. S. Clinic, 514 Main St.; Seton Hospital, 625 Kenyon Ave.; University of Cincinnati (Out-patient Dispensary); Cleveland: City Hospital Clinic, Seranton Road; Lakeside Hospital, 1235 Lakeside Ave.; Mt. Sinai Hospital, 1800 E. 105th St.; Columbus: 312 S. 7th St.; Children's Hospital Clinic, Miller & Fair Aves.; Dayton: 3rd Floor, Chappel Bldg.; Hamilton: Clinic, Front & Ludlow Sts.; Lima: Public Health Clinic, Memorial Hall, Elm & Elizabeth Sts.; Lorain: St. Joseph's Hospital; Portsmouth: 12 Turley Bldg.; Springfield: City Bldg.; Toledo: Municipal Hospital, Lafayette & Superior Sts.; Youngstown: Public Health Service, 121 S. Champion St.; Warrensville: Correction Farm.

OKLAHOMA. Ardmore: Hardy Sanitarium, B & Maine Sts.; Chickasha: First National Bank Bldg.; El Reno: 100 1-2 S. Bickford St.; Enid: over Carry Drug Co.; Holdenville: Room 11, McFarlin Bldg.; Hugo: 1st & Duke Sts.; Lawton: 329 1-2 C Ave.; Miami: 301 Cardin Bldg.; Muskogee: 308 Surety St.; Oklahoma City: Central Venereal Clinic, 315 Campbell Bldg.; Poncha: 206 Connell Ave.; Shawnee: 218 Mammoth Bldg.; Tulsa: Public Health Clinic, 219 Federal Bldg.

OREGON. Portland: Venereal Disease Clinic, Portland Free Dispensary, 4th & Jefferson Sts.

PENNSYLVANIA. Allentown: Allentown Hospital Dispensary; Altoona: Mercy Hospital Dispensary, 2601 Eighth Ave.; Altoona Hospital Dispensary; Beaver Falls: Providence Hospital Dispensary; Bellevue: Suburban General Hospital Dispensary; Berwick: Berwick Hospital Dispensary; Bryn Mawr: Bryn Mawr Hospital Dispensary; Chester: Chester Hospital Dispensary, 9th & Barclay Sts.; J. Lewis-Crozier Homeopathic Hospital Dispensary; Clearfield: Clearfield Hospital Dispensary; Danville: Geissinger Memorial Hospital Dispensary; Erie: Hamot Hospital Dispensary, 2nd & State Sts.; Harrisburg: Harrisburg Hospital Dispensary, Front & Mulberry Sts.; Harrisburg Polyclinic Hospital Dispensary, Front & Harris Sts.; Homestead: The Homestead Hospital Dispensary; Indiana: Indiana Hospital Dispensary; Johnstown: Conemaugh Valley Memorial Dispensary; Lancaster: St. Joseph's Hospital Dispensary; Mount Pleasant: Mount Pleasant Memorial Hospital Dispensary; Nanticoke: State Hospital of Nanticoke Dispensary; Philadelphia: American Oncologic Hospital Dispensary, 33rd St. & Powelton Ave.; Chestnut Hill Hospital Dispensary, 8515 Germantown Ave.; Frankford Hospital Dispensary, Frankford Ave. & Wakeling St.; Garrettson Hospital Dispensary, 18th & Hamilton Sts.; Germantown Hospital Dispensary, Penn St. near Chew St.; Hahnemann Hospital Dispensary, 15th St. above Race St.; Hospital of the

Protestant Episcopal Church Dispensary, Front St. & Lehigh Ave.; Howard Hospital Dispensary, Broad & Catherine Sts.; Jefferson Hospital Dispensary, 10th & Sansom Sts.; Lanekau Hospital Dispensary; Mercy Hospital Dispensary, 17th & Fitzwater Sts.; Methodist Episcopal Hospital Dispensary, S. Broad & Wolf Sts.; Mount Sinai Hospital Dispensary, 1429 S. 5th St.; Northwestern General Hospital Dispensary, 2019 N. 22nd St.; Presbyterian Hospital Dispensary, 51 N. 39th St.; Samaritan Hospital Dispensary, Broad & Ontario Sts.; Stetson Hospital Dispensary, 1745 N. 4th St.; St. Agnes Hospital Dispensary, 1900 S. Broad St.; St. Christopher's Hospital Dispensary, Lawrence & Huntingdon Sts.; St. Joseph's Hospital Dispensary, 16th St. & Girard Ave.; St. Luke's Hospital Dispensary, 4414 N. Broad St.; St. Mary's Hospital Dispensary, Frankford Ave. & Palmer St.; St. Timothy's Memorial Hospital Dispensary, Ridge & Jamestown Avenues; University Hospital Dispensary; Polyclinic Hospital, 1818 Lombard Street; West Philadelphia Hospital for Women, 4035 Parikh St.; Wills Hospital Dispensary, 1810 Race St.; Woman's College Hospital Dispensary, North College Ave. & 22nd St.; Women's Homeopathic Hospital Dispensary, 20th St. & Susquehanna Ave.; **Pittsburgh:** Allegheny General Hospital Dispensary, 100 E. Stockton Ave.; Children's Hospital Dispensary, Forbes St. & McDevitt Place; Elizabeth Steel Magee Hospital Dispensary, Forbes & Halket Sts.; Eye & Ear Hospital Dispensary, 1945 Fifth Ave.; Mercy Hospital Dispensary, Pride & Locust Sts.; Montefiore Hospital Dispensary, 3000 Center Ave.; Passavant Hospital Dispensary, Miller & Reed Sts.; Presbyterian Hospital Dispensary, Montgomery & Sherman Aves.; South Side Hospital Dispensary, 20th, Mary and Jane Sts.; St. Francis Hospital Dispensary, 45th St.; St. John's General Hospital Dispensary, 3339 McClure Ave.; St. Joseph's Hospital Dispensary, 2117 Carson St.; **Pottstown:** Pottstown Hospital Dispensary; **Pottsville:** The Pottsville Hospital Dispensary; **Reading:** Homeopathic Hospital Dispensary, 135 N. 6th St.;

Reading Hospital Dispensary, Front & Spring Sts.; St. Joseph's Hospital Dispensary; **Ridley Park:** Taylor Hospital Dispensary; **Scranton:** Hahnemann Hospital Dispensary; State Hospital Dispensary, Franklin Ave. & Mulberry St.; **Shamokin:** State Hospital Dispensary; **Susquehanna:** The Simon H. Barnes Memorial Hospital Dispensary; **West Chester:** Homeopathic Hospital of Chester County; **Wilkes-Barre:** Mercy Hospital Dispensary; City Hospital Dispensary, North River & Auburn Sts.; Wyoming Valley Homeopathic Hospital Dispensary, 149 Dana St.; **Windber:** Windber Hospital Dispensary; **York:** York Hospital Dispensary.

RHODE ISLAND. **Newport:** Newport Hospital; Pawtucket: Memorial Hospital, Prospect St.; **Providence:** City Hospital, Eaton St.; Rhode Island Hospital, Eddy St.; St. Joseph's Hospital.

SOUTH CAROLINA. **Charleston:** Roper Hospital, Lucas & Calhoun Sts.; **Columbia:** Columbia Hospital; **Florence:** Rooms 2 and 3, City Hall; **Greenville:** Room 2s, Finlay Bldg.; **Orangeburg:** 27 Main St.; **Spartanburg:** Second Floor, City Hall; 148 W. Main St.

SOUTH DAKOTA. **Aberdeen:** Municipal Bldg.

TENNESSEE. **Chattanooga:** Clinic for Males, County Court House; Clinic for Females, Municipal Bldg.

TEXAS. **Austin:** City Hospital, 14th & Sabine Sts.; **El Paso:** County & City Venereal Clinic, Court House; **Fort Worth:** 5th & Calhoun Sts.; **Galveston:** Strand & Mechanic Sts.; **Houston:** 714-2 Prairie Ave.; **San Antonio:** 118 Dwyer Ave.

UTAH. **Ogden:** Room 16, City Hall; **Salt Lake City:** 159 Regent St.

VERMONT. **Burlington:** Pearl St.

SCHOOLS

SCHOOLS



The school visited was the Lincoln School, and is shown pictured above. This school was taken as it represents a good average of the schools in the town, of which there are six.

The play grounds are more than adequate for the needs and requirements of the pupils, there being about 9000 square feet available for 160 pupils. This allows for more than the required 30 feet per child. There is abundant shade and the land is well drained. The play ground is situated on the north side of the building and there is no equipment of any kind.

The building is located in an ideal spot, being situated in a quiet section of the town in the center of a large open lawn. This affords plenty of sunlight and fresh air, there being no factories in the immediate vicinity. The building is composed of red brick and was constructed at a time when labor and materials were comparatively cheap. The basement extends under the whole of the structure.

There are two entrances on opposite ends of the building with the doors opening outwards. The corridors are on the north side of the building and of ample width.

There are four school-rooms, two on each floor, each room accommodating approximately forty pupils. There are seven large windows to each room. The only method of ventilation is by opening the windows. This is done four times each day, once before the opening of school in the morning, again during the forenoon recess, again at noon, and lastly during the afternoon recess.

The desks and seats are not so constructed as to allow for differences in height and growth. The black boards are of slate and are located on each of the four walls.

There are two recess periods of fifteen minutes each, one in the forenoon and one in the afternoon session. School begins at eight-thirty A.M. and closes at three-thirty P.M. There are two periods a day. The forenoon extending from eight-thirty to eleven with a recess at nine forty-five, the after noon from one-thirty to three-thirty with a recess at two thirty. This requires four hours of school room work a day, and there are five school days a week making a total of twenty hours of class room work each week.

The windows provide adequate light coming from two directions, the artificial light is electricity. The building is steam heated and there were no complaints as to the efficiency of the furnace. The water closets and urinals are in the basement, there being four seats and a urinal for the boys and six seats for the girls. These are located in opposite ends of the basement. There is one fire escape and only one flight of stairs leading from the top floor. There is about one fire drill a term. Fifteen minutes each day are given to exercises between periods in addition to the recess.

The water supply comes from the West Aqueduct Co. (reported elsewhere), and is piped into the basement from which it is brought to each room in five gallon bottles. The pupils have individual drinking glasses which they bring from home. These are kept on their desks unprotected from dust. The windows have no screens.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

The town votes at each annual town meeting to raise \$400. for the purpose of employing a school physician for that year. The duties of the school physician are to examine once a year all the pupils attending the public schools. This examination is given during the first two weeks of the school year, in the nurses room which is located in the municipal building. There is a full time school nurse who works with the school physician. She arranges for the examination which is given by classes. This examination is for the following: height, weight, development, skin, eyes, ears, nose, throat, teeth, and heart. The examination of the pupils in the rural schools is conducted at these school houses.

A report of their findings for the year just past is given below, this is for the September 1922 to June 1923 term:

Children Examined -----	293
Excluded -----	35
Causes -- Pediculi	
Scarlet Fever	
Whooping Cough	
Scabies	
Defective -----	403
Parents Notified -----	403
Undertaking remedy -----	143

A detailed account of the defects found are given below :

Eyes Defective -----	111	--	Corrected -----	14
Ears " -----	11	--	" -----	0
Skin " -----	10	--	" -----	10
Teeth " -----	170	--	" -----	110
Adenoids & Tonsils -----	168	--	" -----	9
Heart -----	2			
Underwightt -----	54	--	Improved -----	39

194 children were vaccinated within the past three years.

The school nurse is full time and her duties are to assist the school physician in his yearly examination of the school children, to keep all of the records, and to visit the schools regularly for the purpose of checking up on the findings at the yearly examination. She also conducts a health club in the High School. This is an organization of her own institution. She visits the grade schools once to twice a week and asks the teachers if any medical advice is needed.

The diseases for which school children are excluded from the schools as given to me by the school physician are as follows:

Whooping Cough.
Scarlet Fever.
Measles.
Scabies.
Diphtheria.

If any pupil contracts one of the above mentioned diseases he has to go home and is not permitted to return to school until he has obtained a certificate from the school physician.

CRITICISM

There is much that could be said by way of criticism of the conditions found as mentioned above. I would recommend the following :

(1) A change in the seats and desks to those that are adjustable.

The Cooperative Duties of School Officials and Teachers with the Health Officers.

ISSUED BY THE STATE DEPARTMENT OF HEALTH OF MAINE.

In the prevention and control of the infectious diseases there is a very great advantage in having a close and cordial cooperation of school officials and teachers on the one hand and of state and local health officials on the other. If one stitch in time saves nine, one prompt step by a teacher, for instance, in safeguarding the children under her care against the approach or the presence of a communicable disease, very often contributes in equal proportion to the welfare of her charges and of the community. Prompt and efficient action is also sure to prevent loss of school time and school money, losses which are too often very serious when that which should be done is not done quickly and efficiently. The presentation of the provisions of the health laws and the school laws and of the rules and regulations of the State Department of Health relating to cooperative action between school and health workers, and suggestions of such united activities, is the reason for this circular.

Circular 227, "The Characteristics of some of the Communicable Diseases," is kept in stock by the State Department of Health for the use of teachers, members of local boards of health and other local workers. Aside from Circular 227, it would, very often, be a distinct help to the local superintendents of schools and to teachers in the larger schools particularly, if they kept on hand a copy of the "Rules and Regulations" relating to the infectious diseases.

Sections 58 and 59, Chapter 19 of the Revised Statutes, provides that teachers, school officers and local boards of health shall work together as follows:

Sec. 58. Children who have been exposed to contagion shall be excluded from public schools. When ever smallpox, diphtheria, scarlet fever or other contagious disease, shall appear in a town, the local board of health shall immediately notify the teachers of the public schools in the neighborhood of the fact, and all teachers and school officers when thus notified, or when otherwise they shall know or have good reason to believe that any such disease exists in any house in the neighborhood, shall exclude from the schoolhouse, all children and other persons living in such infected houses, or who have called or visited at such houses, until such time as the local board of health shall certify that such children or other persons may safely be readmitted.

Sec. 59. Schoolhouses, when infected, shall be closed. When persons from houses or places which are infected with any of the diseases for which disinfection may be required by the state board of health, have entered any schoolroom, or when, from any other cause, the schoolroom has probably become infected, the teacher shall dismiss the school and notify the school officers and local board of health, and no school shall again be held in such schoolroom until the room has been disinfected to the satisfaction of the local board of health, and the school officers and board of health shall cause the room to be disinfected as soon as possible.

The diseases in connection with which disinfection is required are: diphtheria, scarlet fever, typhoid fever, tuberculosis, poliomyelitis (infantile paralysis,) cerebrospinal meningitis and smallpox. Rule 22, further provides that the disinfection shall be done in accordance with the directions for such work which may be given from time to time by the State Department of Health. Circular 221, "The Disinfecting of School Rooms," gives explicit directions.

In line with the statutory provisions relating to the co-operation of teachers, Rule 14 of the State Department of Health provides as follows:

"It shall be the duty of teachers and of principals of schools to note the condition or the symptoms of their pupils which are suggestive of the onset of a contagious or an infectious disease, and this particularly when a disease of this kind is prevalent or present in the community. Among the symptoms which should excite suspicion are those of a com-

mon cold or a cough when measles or whooping-cough is around; tonsilitis or sore throat, which may mean diphtheria or scarlet fever; or a rash at any time. The teacher or principal shall immediately report to the local health officer the condition of any pupil which is suggestive of a contagious or infectious disease and shall exclude such pupil from the schoolroom until he has been seen by the health officer or a physician. The teacher shall furthermore exclude from the schoolroom children from houses in which there is, or recently has been, a contagious or infectious disease until a certificate of readmission is received from the local health officer."

It will be noticed that the use of the word *shall* makes these provisions mandatory. The penalty provided in Section 65 of Chapter 19, is applicable alike to teachers and to local health officers who fail to do that which the law or the rules and regulations provide they shall do.

Under the school laws, Sections 43 and 44 of Chapter 16, are these important provisions for preventing the introduction of infectious diseases into the schools:

Sec. 43. Examination of pupils after absence on account of sickness. The superintending school committee shall cause to be referred to a school physician for examination and diagnosis every child returning to a school without a certificate from the board of health or family physician after absence on account of illness or whenever in the judgment of the teacher the circumstances of the absence were such as to require such a certificate, and every child in the schools under its jurisdiction who shows signs of being in ill health or of suffering from infectious or contagious diseases, unless he is at once excluded from school by the teacher; except that in case of schools in remote and isolated situations, the school committee may make such other arrangements as may best carry out the purposes of sections forty to forty-seven, both inclusive.

Sec. 44. Notice of disease or defects. The superintending school committee shall cause notice of disease or defects, if any, from which any child is found to be suffering to be sent to his parents or guardians. Whenever a child shows symptoms of smallpox, scarlet fever, measles, chickenpox, tuberculosis, diphtheria, or influenza, tonsilitis, whooping-cough, mumps, scabies, or trachoma, he shall be sent home immediately or as soon as safe and proper conveyance can be found, and the board of health and superintendent of schools shall at once be notified.

Sec. 53, Chapter 16, seeks to protect schools against the diffusion of certain contagious diseases of the skin, mouth and eyes and of vermin or parasites.

Sec. 53. Exclusion of pupils from school on account of filth or disease; notice to parents. When a teacher becomes aware or suspects that any of the pupils attending his school are in a condition which renders them a source of offense or danger to the other pupils in school on account of filthiness, or because they are the bearers of vermin or parasites, or have an infectious or contagious disease of the skin, mouth or eyes, he shall notify the superintendent of schools. When a superintendent of schools knows or learns that any of the pupils attending any school within his jurisdiction, are affected with any of the conditions, infections, or diseases herein mentioned he shall notify the parents to cleanse the clothing and the bodies of the children and to furnish them with the required home or medical treatment, for the relief of their trouble, and he may, when he deems it necessary, exclude such children from the schools temporarily or until they may be cured, cleansed and disinfected.

Leaflet No. 3. "Parasites and Parasitic Diseases of the Skin," has been found to be of great help in schools where these troubles have occurred.

Exclusion of Unvaccinated Persons from the Schools. Under the provisions of Section 38, Chapter 16, superintending school committees shall perform certain duties, among which is the exclusion from the schools of persons, pupils or teachers who have not been vaccinated.

As smallpox spreads among unvaccinated persons only, or in other words, as this disease may be absolutely controlled by vaccination, it is very desirable, indeed, for school committees to cooperate with local boards of health in saving communities from this malady and in saving municipal expenditures which in some of our town and cities have rapidly run into the hundreds or thousands of dollars when the infection of this surely preventable disease has struck an unprotected community.

Circular 322 gives some important information as to the real value of vaccination.

Copies of the Health of Home and School Leaflets may be had by application to **State Department of Health, Augusta, Maine.**

(2) There should be a system of sanitary cups installed.

(3) A more adequate system of ventillation should be considered. I would recommend the **Fairfax** System of Window ventilating as sufficient considering the funds available.

(4) Screens on all of the windows and doors.

(5) There should be a Medical Inspection of the schools, at least three times a year, at which times the investigation should include such conditions as, heating, lighting, ventillation, cleanliness, gymnasium, toilets, seating arrangements, purity of drinking water, and general conditions of the neighborhood as might affect the health of the pupils. This investigation should be conducted by such persons as are considered authorities on these various topics.

(6) All pupils should be vaccinated before being permitted to attend school and again before entering high school.

(7) The school nurse should carefully look the pupils over instead of paying a formal call on the teachers and asking them if there is any thing that she can do.

MISCELLANEOUS

MISCELLANEOUS.

(a) The markets inspected were found to be kept in very good sanitary conditions. The counters, benches, refrigerators were constructed of hard wood and were water tight and cleanable. Most of the markets have iced refrigerators, although one has a very modern cold storage plant, the temperatures were 40 degrees F. or below. The ice is kept in a separate compartment from the meat. All meats coming into the town is inspected and stamped, but very little of the local meat is inspected. Most of the meat sold in the town is western. The meat and fish is fresh. All the fish is iced and stored without nuisance. The markets were provided with toilet rooms but the uniforms used in most of the markets consisted of overalls and frocks and in many instances were not clean. There is no medical inspection of the employees.

(b) The provision stores were likewise in good sanitary conditions, any food displayed out side is required by law to be protected from flies, this is accomplished either by covering the food with mosquito netting or it is kept in glass cabinets. The delivery of food is prompt. The show windows are not all closed, and all food-stuff is at least twenty-four inches above the floor.

The soda-fountains are for the most part kept in good aesthetic cleanliness. About half of them serve their goods in individual containers. All milk and ice-cream is of good quality and made under as sanitary conditions as would be used in private dwellings. All unwrapped candies were found protected from dust and flies. All utensils were washed under running water and some used hot water.

(c) There are three slaughter houses in the town, and of

these, only one is used throughout the year. They are all constructed of wood, and are unpainted. There are no screens on the windows, and no attempt is made at cleanliness, sanitation or neatness. Only one boasts of a refrigerator. These houses are used mostly in the winter and the meat is quickly transported to the local markets. The refuse of all the houses combined is thrown out onto the ground making an excellent breeding place for flies and productive of considerable odor.

The slaughter house shown below is owned by a local butcher who gave us the following figures as his yearly business:

25 head of beef.	He sells to customers three times
25 head of calves.	
40 head of swine.	a week from a horse drawn cart.
40 head of lambs.	



This house is located well out side of the village limits and the odors could not be considered a nuisance.

Wescott Slaughter House.



Easler Slaughter House.

This slaughter house was formerly very popular among the local butchers, but for the past few years has been very little used. The yearly estimate of business carried on here was given as 25 head of lambs. A greater part of the time it is rented to local butchers.

The Thompson slaughter house shown below, is by far the most used of any of the three. It is located about 1/10 th of a mile from the road and has been the cause of not a few complaints as a source of odors. The yearly business is considerable more than any of the others and is as follows:



100 head of swine.
100 head of beef.
600 head of lambs.
600 head of veal.

(d) There are no cold storage plants in town.

The meat inspection has already been discussed else where in this report.

(e) The kitchens of hotels and restaurants at the time of inspection were found to be in good condition, not all were inspected however. For the most part the floors were smooth, wood and clean. The light was both natural and arterficial. The ventillation was by opening windows, which were well screened. All were equipped with refrigerators which were kept at the required temperature. There was both hot and cold running water, and all utensils were clean and neat. The garbage was carried off twice a week, and there was little offence from flies and insects. There is no inspection of these varicus eating places by any health authorities and there is no medical inspection of the employees.

(f) There are no wharves in the town.

(g) The barber shops are not inspected. They are for the most part what one would expect to find in a community of this size. There areno individual sanitary precautions taken.

(h) The distribution of educational pamphlets is carried on largely by the local health officer and the school nurse. Some of the pamphlets distributed have been shown throughout the report and others are given below:

Bulletin of the State Department of Health of Maine

Entered as second-class matter September 12, 1905, at the post office
at Augusta, Maine, under the Act of Congress of July 16, 1894.
Acceptance for mailing at special rate of postage provided for in Sec-
tion 1103, Act of October 3, 1917, authorized September 17, 1918.

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THE COMMON INFECTIOUS DISEASES AND THEIR PREVENTION

by

A. G. YOUNG, M. D.
Director, Division of Communicable Diseases
State Department of Health.

DEPARTMENTAL BULLETINS

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The Common Infectious Diseases and Their Prevention

by

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The Reportable List.

Of the diseases which are reportable to local boards of health there are about forty in the list. Of these a dozen or so have either never been found in Maine or have very rarely been known among us. Aside from the venereal diseases another twelve of the notifiable diseases impose upon the local health officials and the medical profession the bulk of the task of keeping down to the lowest possible limit the sickness-rate and the death-rate and the burden of expense from the communicable diseases. To that end the following brief notes on some of those diseases may be helpful. The full list of the notifiable diseases is printed on the back of "Form 1, Report of Cases of infectious Diseases", which is in the hands of physicians and local boards of health.

Chickenpox.

Altogether too frequently it is happening that smallpox remains for a while uncontrolled, and the final outcome is much illness, disruption of business, and the accumulation of serious expenses to be borne by individuals or by municipalities just because the first cases of smallpox have been mistakenly called chickenpox. But chickenpox is one of the notifiable diseases, and the physician and householder is under the same obligation to report it that he is to report smallpox.

If cases of chickenpox were all reported the local boards of health and the State Department and its district health officers would have a much better chance of preventing the development of epidemics of smallpox from so-called cases of chickenpox. When there is a reported prevalence of chickenpox among adults as well as among children there is good reason for something more than a suspicion that the disease may be smallpox.

Diphtheria

Our system for the registration of deaths in Maine went into effect in 1892, a few years before antitoxin for the treatment of diphtheria came into use. In the first five years of our registration era the average annual number of deaths from diphtheria was 99; and in the last five years, ending with 1918 it was 74. That is something of a gain but it is far from being what it should be. There are several reasons why the death-rate from diphtheria has not been lowered far more than it has. The principal reason why there has not been a far greater lowering of the diphtheria death rate is because all cases of diphtheria have not received diphtheria antitoxin, or have not had it promptly, or have had insufficient doses of it. Experience in treating large numbers of cases with it have shown that, with sufficient dosage of antitoxin on the first day of the disease, practically all patients were saved, and that the longer the delay in receiving the antitoxin the greater the number of deaths.

Though the doses of antitoxin now advised are costly, no child should be allowed to die for the want of it. Whenever antitoxin is needed in a family to which it is not otherwise promptly available, there should be no delay in filling or approving requisitions for it which may come from attending physicians. Local boards of health are fully authorized to do this under the provisions of Sections 70 and 71 of Chapter 19 of the Revised Statutes.

When clinically there is evidence of the probability of diphtheria, there should be no waiting for laboratory reports. Even if negative reports come from the laboratory the prompt use of antitoxin in every case in which the judgment of the

doctor is that it should be used will be a good investment for any town, and should not in the least be thought to be a reflection on the acumen of the doctor, for, without the help of the laboratory, it is beyond the ability of any doctor to make a positive diagnosis of some cases of diphtheria; and again in true diphtheria swabs may fail to bring the bacillus from throat or nasal passages, or the life of the infective agent may be lost in the journey to the laboratory. Aside from its remedial use for the sick, antitoxin should be used for its prophylactic effect when other children in the same family have been, or must be exposed to the infection.

Many cases of diphtheria are not seen by the family physician as early as he should see them for the reason that the poison of diphtheria often has a benumbing or paralyzing effect upon the throat so that there is no complaint of soreness. It would help very much, in saving lives, if parents generally could be made to understand that fatal diphtheria may have its location in the throat, or nose or larynx with the patches of false membrane in some of these locations wholly invisible, and if they would call their family physician early when there is any indication of soreness of the throat, or a nasal discharge, or difficult breathing.

Scarlet Fever.

The germs of scarlet fever leave the sick one in the discharges from the throat and nose and they are frequently present in the discharges from the ear or from abscesses. Children who have had the disease even in a mild form may for some time remain dangerous carriers of scarlatinal infection. The general rule under which health officers work requires the isolation of the patient for a period of thirty days from the onset of the disease. In some mild cases in which the mucous membranes of the throat and nasal passages speedily return to their healthy condition, the month of isolation may perhaps be shortened a little, but in cases in which the inflammation of the throat or nose is protracted, or an abnormal discharge from these parts or from the ear is continued, the only safe course is to prolong the isolation beyond the usual 30 days. The teaching of the Parisian authorities

of twenty years ago or longer that the desquamating particles, or flakes of skin do not bear the infection is now generally accepted.

Of late years the prevailing type of scarlet fever has generally been much milder than it was formerly, but some years ago a malignant type of scarlet fever of more than 30 cases in which 11 children died occurred. All of the families were on the route of one milkman. It was found that the milkman, delivering milk while still desquamating as the sequel of a mild attack of scarlet fever which had not been recognized as such, had thus innocently been the cause of the outbreak. This illustrates two well-known facts: That a malignant type of scarlet fever may be developed from the infection from mild cases; and that the infection of scarlet fever may readily be transmitted through some food products, particularly through milk.

Septic Sore Throat

Nearly all the forms of sore throat and tonsillitis are communicable to other persons. Particularly dangerous infections may be received from cases of scarlatinal sore throat accompanied by no eruption, from diphtheria in which the characteristic false membrane cannot be found, and from septic sore throat, serious outbreaks of which have appeared in various places since the notable epidemic occurred in Boston in 1911. While septic sore throat is communicable from person to person, the investigations of the larger outbreaks have shown that transmission through milk supplies has been the larger factor, the source of the infection probably much more frequently a milker or milk handler than a cow with a diseased or infected udder.

In an outbreak of this kind the first thought of the health officer should be the probability of a milk-borne infection, prescribing at the same time the same precautionary measures against contact infection that he would when dealing with diphtheria or scarlet fever.

Measles and Whooping Cough.

Traditionally these two are classed by many people among the minor infectious diseases, but seen from the point of view

of the number of deaths caused by them they should be considered maladies calling for the most cordial and efficient co-operation of parents and health officers in controlling them. In the five years, 1914-1918, the average yearly number of deaths from measles in our state was larger than that from diphtheria, it lacked only one of being as large as that from scarlet fever and diphtheria; the mortality from measles and whooping cough was nearly twice that of scarlet fever and diphtheria, and within 12 of equalling that from scarlet fever, diphtheria, and typhoid fever. It is high time to get over the do nothing policy with these two diseases. Aside from the deaths charged against them in our registration reports, it is well known that measles and whooping cough are often followed by pneumonia of a serious type or by the awakening to activity of the latent deposits of tubercle which very many persons carry. These two diseases are particularly dangerous to young children. For example of the 598 deaths from whooping cough in the eight years 1910-1917, 575 of them were of children under five years of age; and of the 463 deaths from measles in the same years, 324 were of children under five.

The rules and regulations of the State Department of Health have made measles and whooping cough notifiable diseases to be reported not only by physicians but by householders and teachers, and the policy of the department must be to insist upon the faithful reporting of these diseases. In controlling outbreaks, Circular 224 on measles or Circular 225 on whooping cough should be supplied liberally to families so as to gain their cooperation and self help. The cooperation of the public may be gained more readily by doing promptly and well that which need be done, and that only.

Measles.

One peculiarity of measles causes some difficulty in the early recognition of the disease and therefore in the prompt limitation of the danger from a case. The rash does not appear until four or five days after the onset of the early symptoms which are those of a common cold. Meanwhile from the very first the affected child is infectious.

On the other hand another characteristic, minimizing the trouble from restrictive measures, is that the period of infec-

tivity is very brief after the eruption is out—not more than five days. But the isolation should continue until the temperature has returned to normal and all discharges from the throat, nose and ears, and the rash have disappeared.

The isolation of the patient should promptly follow the appearance of the very first symptoms of a cold in the head when there has been exposure or probable exposure to the disease, or when measles is around, and instead of closing the schools as a protective measure, greater help would come by instructing the teachers to act as is provided in Rule 14 of the Rules and Regulations. Supply each teacher with a clinical thermometer, teach her how to use it and how to disinfect it. Upon the first symptoms of a cold in the head with an accompanying rise of temperature one degree above the normal, the child should be sent home and the case reported to the local board of health for investigation.

Whooping Cough

This disease is spread by contact and by the droplets thrown into the air in coughing. To children with this disease a very great danger is from pneumonia as a complication. As in measles there should be prompt isolation of the child who has the symptoms of a cold with cough when the disease is prevalent or when there is reason to believe there has been exposure to whooping cough. The disease is not so infectious as is measles, but the death-rate of children who take the disease is so great, particularly with those who are under two years of age (501 out of a total of 598 at all ages) that extreme care should be taken to save from infection children of these tender ages.

Influenza.

The average annual number of deaths from influenza in Maine in the twenty years before 1918 had been 206. That was serious enough. But the influenza deaths in 1918 were 2554; or, with the number of pneumonia deaths above the average, the deaths fairly chargeable to influenza numbered 3240.

Whether this calamitous movement of this disease was

due to the importation of a more virulent strain of infection we are not quite sure, but we do know that in the few years which preceded 1918, an unusually malignant type of influenza had been prevalent in many places. In our state in 1916, 449 deaths from that disease were reported, twice that of the average mortality.

It is certainly desirable that we gather from the experiences which we passed through in 1918 what we can to aid us in the future in the control of influenza and the other acute respiratory diseases. Questions regarding some points in the management of these diseases are still debatable, but we may feel assured that the following may be laid down as safe and necessary lines of procedure:

1. When influenza is once well under way it moves with a wild-fire rapidity unequaled by any other disease. Undelayed action is therefore required with the first cases.

2. There should be a prompt compliance with the legal requirement that cases shall be reported to local boards of health and through them to the central office.

3. The isolation of the influenzal patient is just as necessary as though he had scarlet fever or diphtheria; and as the patient is giving off infection very early with the onset of the disease, and as contact in the house is one of the most important of all causes of the spread of infection, the isolation should be prompt and complete.

4. A large part of the work in controlling influenza and the other acute respiratory diseases must be done in the homes of the people. It is therefore very desirable that local health officers and health workers make free use of Circular 241, "Guarding against Influenza and Common Colds," as an aid in teaching families how they may best protect themselves, and in so doing lessen the danger to the public.

5. In the sick-room the sputum should be carefully collected and destroyed, there should be care for the cleanliness of the patient and of everything about him; and attendants should be careful not to be at short range in front of the patient when he sprays infection into the air in coughing or otherwise.

6. Dishes, toilet articles, and the personal and bed clothing of cotton, or linen fabric should be disinfected with boiling water.

7. The final disinfection of the room and its contents should be done by washing up with soap and water or with Solution 7, and by exposure to fresh air and sunshine.

Thus far we may speak with confidence; on other points we cannot lay down rules that are applicable to all places under all conditions.

In regard to closure, some of our large cities that closed schools and other places of assembly made a more unfavorable epidemic record than did other cities with schools and places of amusement running as usual. Apparently closure is more effective in rural communities. The question must be left to the judgment of each local board, as to whether the schools and other places under the existing local conditions, shall be closed.

The face mask affords considerable protection to the nurse if worn when her duties are in the near vicinity of the patient. The mask arrests the moist droplets of infectious matter that may be thrown into the air in the act of coughing, sneezing, or talking. It can be made as described in the circular on "Hints on Home Nursing."

Pneumonia

Tuberculosis and pneumonia have long been keen competitors in the destruction of human lives. For a long time tuberculosis had a distinct lead in this work, but the teaching that tuberculosis is a communicable disease, and is therefore preventable, has lowered very much the tuberculosis death-rate in Maine. Though there appears to be a marked difference in the degree of infectivity and communicability in different cases and different outbreaks of pneumonia, there is reason to believe that, if the public were generally aware of the fact that pneumonia and broncho-pneumonia are communicable diseases, and if intelligent care were generally observed to guard other persons from the danger of the infection that the pneumonia patient is giving off, there would be a considerable reduction in the death-rate from these respiratory di-

seases. The precautionary rules to follow in pneumonia and the other acute respiratory diseases are just those given under the preceding sub-head, and in Circular 241 Guarding against Influenza and Common Colds.

Infantile Paralysis (Poliomyelitis).

The history of this communicable disease has shown occasional serious epidemics followed by a series of years in which there have been only sporadic cases. For instance, in 1910 cases of poliomyelitis were reported in 84 of our Maine towns, with the disease in only 12 towns in 1911. In the four years 1912-1915 the yearly average of towns from which this disease was reported was seven or an average of 10 cases a year. The year 1916 was noted for the wide prevalence of infantile paralysis. In Maine it was found in 52 towns, with reports of it in only 11 towns the following year.

Whether found in epidemic years or at other times, prompt action should be taken in connection with every case to prevent the spread of the infection.

Typhoid Fever

The onset of typhoid is gradual and insidious so that ordinarily there is difficulty in making a diagnosis in the first few days, and in mild or walking typhoid the uncertainty as to the nature of the disease is usually more prolonged. Further, diagnostic help from the laboratory through the Widal reaction is usually not available in the first week of the disease or longer. Meanwhile the typhoid bacillus very early permeates every part of the body and its excretion in the fecal and urinary discharges of the patient may be going on some time before a positive diagnosis can be made. Prompt precautions should therefore be in force as soon as there is a suspicion of typhoid fever, that other persons may not be infected even in the developmental stage of the disease.

The special death-rate from typhoid fever in Maine is now less than one fourth of what it was when the registration of deaths began in 1892, due to improvements in our public water supplies and, to a lesser extent, to improvements in our milk supplies. If a much greater lowering of the typhoid

death-rate is to come, a good part of the work must be done in homes where careful instruction has been received that typhoid is not only a water-borne and milk-borne disease, but that it is one of the diseases which is very often received by "contact infection", direct or indirect. These are some of the facts that should always be borne in mind in the presence of plain or suspected cases of typhoid fever:

1. In closely associating with a person sick with typhoid fever there is a real danger of taking the disease directly or indirectly from the patient. To ensure safety constant vigilance is required in following the rules given in the circulars of the Department relating to this disease. Even among the nurses and other attendants on typhoid fever patients, in some of the hospitals in this state and elsewhere, there have in the past been numerous instances of the contraction of the disease by these caretakers of the sick in spite of their special training for this work. Nurses for typhoid patients and the other members of afflicted families should invariably be protected by anti-typhoid vaccination.

2. There is a serious danger of fly-borne infection when flies have access to the dejections from typhoid patients. In guarding against this danger, flies must be banished from the sick room, from kitchen, pantry and dining-room where food is prepared, stored, or served, and from the place of final disposal of the discharges from the patient. The new laws or regulations in some of the Southern States requiring absolutely fly-proof privy vaults promises to give them a distinct lead in public health records in some directions.

3. The bacillus of typhoid fever is not so readily destroyed by drying or by sunlight as are some other infective organisms. Everything in the sick-room that has had a chance to become infected—towels, handkerchiefs, bed linen, body linen, and other fabrics, and the floors and their coverings—should therefore receive a careful disinfection.

4. Milk, handled by infectious persons, may not only serve as a carrier of typhoid infection, but may become a culture medium for the rapid multiplication of the typhoid bacillus. A milk supply that comes from a typhoid home or

that has been handled by persons living with typhoid patients must be shut off promptly until the precautionary measures provided in Rule 20 of the State Department of Health can be put into effect.

5. The organism causing typhoid fever may retain its vitality some time in water, particularly in cold weather. Well water supplies should be carefully guarded from the chances of surface drainage or of soakage through the soil into the wells. Streams receiving typhoid infection sometimes transmit it long distances down stream—for 75 miles as occurred in the winter of 1904 when the infection was carried by the Penobscot waters from Millinocket to Old Town and Bangor giving rise to serious epidemics in those two cities, then using river water without due protection.

Infectious Diarrheal Diseases.

In the summer and fall of 1918 serious epidemics of dysentery and infectious diarrheal diseases were prevalent in several places in the state, causing much suffering and a rather high mortality rate. The rapid transmission of the disease from person to person was repeatedly shown. In one instance, the disease spread rapidly to all the members of a family after the infection had been brought to their home by a young man who came from another town with a diarrheal disease. These diarrheal diseases are not stamped plainly enough in the minds of the people as serious communicable diseases, and for this reason Circular 229, on that subject, will have a wide distribution as needed.

Two Groups of Diseases.

Aside from a certain class of diseases that are transmitted through bites or other wounds inflicted by insects or the higher animals, the infectious or communicable diseases that collectively cause more illness and destroy more lives than all other maladies may be arranged in two groups.

In guarding against the infectious diseases it is very important that we have trustworthy information as to how the infection is given off from the sick one and how it is received and

taken in by other persons. It will be helpful to keep this group arrangement constantly in mind:

GROUP: 1.—Diseases which are spread largely through the secretions or discharges from the nose, throat or mouth. This group includes diphtheria, scarlet fever, measles, influenza and colds, pneumonia, tuberculosis, infantile paralysis, epidemic meningitis, mumps, whooping cough, and German measles.

GROUP 2.—Diseases spread largely by excreta the fecal and urinary discharges particularly. This group includes typhoid fever, paratyphoid fever, dysentery, infectious diarrhea, and cholera.

TRANSMISSION IN GROUP 1.—Taking diphtheria or scarlet fever or measles or influenza as a representative of the first group, the source of infection is the secretions of the mucous membranes of the nose and mouth, or at least what is ejected from those orifices of the body; and the infection enters the bodies of secondary victims by the same routes.

PREVENTION IN GROUP 1.—One very frequent error in guarding against the spread of the infectious diseases generally is the delay in beginning the required precautionary measures. Measles is dangerously communicable from the appearance of the first symptoms, several days before the rash appears. Diphtheria or scarlet fever may be given while there is apparently nothing but a simple sore throat, no visible false membrane in diphtheria and no eruption in scarlet fever. In addition to getting on the safe side early,—waiting only for reasonable grounds for the suspicion that the oncoming trouble may be one of the diseases in the first group—the following steps should be taken:

1. Keep the sick one apart from other persons, particularly away from children and others who have never had the suspected disease. Exclude all unnecessary visitors from the sick room.
2. The one who cares for the sick should keep away from others in the family. She should remember that the infection is only in the immediate vicinity of the patient. If it finds its ways elsewhere it is carried, (1) by the sick person, (2) by the hands or the clothing of those who care for the sick, (3) by the

things used by the sick one. So, before leaving the room and going among other persons, the nurse must wash her hands carefully with soap and water, and, if she can, with a disinfecting solution. A protective outer garment worn in the sick-room should be slipped off. But the washing of her hands should be the last thing.

3. Guard against the soiling of clothing, bedding, and other things with what is coughed up or spit out. Receive it on bits of rag, paper, or in burnable spit-cups and burn it.

4. One of the chief ways in which these diseases are spread is from mouth to mouth—letting another person use a drinking cup, or a spoon, or anything else which has been to the mouth of the sick one, or has in any way been soiled with the infectious secretions from the mouth or nose. Even when nothing more serious among the diseases of group one than a common cold has entered a household, all teaspoons, forks, cups, and other things which might transmit infection should be disinfected with boiling water after every washing.

5. In the room occupied by the sick one, and particularly near him, those who care for him, or associate with him are endangered by the infectious droplets or particles which are sprayed in to the air when the patient coughs, or sneezes, clears his throat or otherwise forcibly expels the air from his lungs. Patients should be instructed not to cough in the faces of attendants or associates, and nurses should have a care for their own safety.

TRANSMISSION IN GROUP 2.—In typhoid fever or the other diseases of this group two, the source of infection is the dejecta—the solid and liquid discharges from the patient; and the disease is transmitted to others by their receiving, by mouth, particles of the infectious matter into their digestive tracts. A mere invisible trace upon fingers washed not carefully enough may suffice, or a trace transported by flies or otherwise to food or drink. Here again, in this group, infection may be transmitted while the disease is showing its earliest symptoms. *This fact shows the need of beginning precautionary measures promptly* while the case is only a “suspect” as the regulations of the State Department of Health provide shall be done.

PREVENTION IN GROUP 2.—A known or suspected case of typhoid fever or other disease in group two requires the following measures:

1. All discharges from the patient should be disinfected promptly with the disinfecting solutions (Solution 4, solution 8, or solution 7 double strength advised in Circular 220), or, with greater certainty, by carrying the vessel out and pouring into it boiling water, six or eight times as much as that of the material to be disinfected. Keep from rapid cooling.

2. Even after their disinfection the final disposal of the discharges should be such that there is no possibility of the pollution of wells, or other sources of water supplies, and so that the infection, if any still remains, may not be carried by flies.

3. The same care should be observed as in group one against soiling articles with the infectious discharges and in banishing flies from the sick room.

4. In these diseases there is just as great need as in group one, if not greater, for those who nurse the sick to keep their hands washed and disinfected so as to avoid the danger of finger-borne infection.

For diseases of group two, the danger of water-borne and milk-borne infection has long been emphasized, but the great danger from direct infection—contact infection—is now well known.

Quarantine and Isolation.

In its rules relating to the infectious diseases it is the aim of the State Department of Health to first ensure the public safety, and next to make the necessary restrictive measures just as little troublesome as possible to individuals and to the public. Quarantine or control is therefore divided into three degrees of stringency; full quarantine, modified quarantine, and observation.

For only four diseases is full quarantine prescribed, and the only one of these that we have had among us for many years is smallpox.

Under modified quarantine may be classed those diseases

under which most of the work of local boards comes, for example; diphtheria, scarlet fever, typhoid fever, paratyphoid fever, measles, septic sore throat, dysentery, poliomyelitis, and cerebrospinal meningitis. With the careful isolation of the sick one in a special room, the bread-winners of the family, particularly the head of the household may be permitted to attend to his usual work if he can be trusted to follow the instructions of the executive health authority, and if his work does not bring him into too intimate association with other people, particularly children.

Under the degree of quarantine known as observation we have, with other diseases, chickenpox, German measles, mumps and whooping cough. The health authorities are authorized to exercise such a degree of supervision and control over persons who have any disease for which "observation" is prescribed as may be deemed necessary to prevent their becoming dangerous to the public.

Under one of the rules the health officer may place temporarily under quarantine or observation exposed persons and suspects, and under another rule, when any orders or regulations relating to modified quarantine or observation are violated or disobeyed, the offending persons may be placed under full quarantine or modified quarantine.

For a fuller and more authoritative understanding every health officer and health worker should make a careful study of the Rules and Regulations of the State Department of Health.

Closure of Schools.

The State Department of Health very often has cause to regret that schools are closed forthwith upon the appearance of a few cases of diphtheria, scarlet fever, smallpox or other infectious disease in a community, instead of putting into operation more modern and usually more efficient plans of defense. In the presence of outbreaks or epidemics of unusual magnitude there are certainly sometimes good reasons for closing the schools for a while, particularly when the schools are in the pathway of so rapidly a moving epidemic as that of 1918, but in most outbreaks of moderate extent or

severity it is much better to put promptly into operation a program about as follows:

1. A prompt and cordial cooperation of the school officials and teachers on one side with the state and local health authorities on the other. The public health laws and the school laws and the rules and regulations and a few words about the advantages of this special kind of cooperation are given in Circular 228 of the State Department of Health.

2. Every case of infectious disease and every suspicious case should promptly be excluded from the school room and arrangements be quickly made for the home isolation of all cases and of all suspects.

3. The teachers should be instructed to keep a close watch over all of their pupils for any symptoms that may indicate the probable onset of the disease in question, and they should promptly report all such suspicious cases to the local health officer or school physician. They should also report every case of absenteeism, and there should be arrangements for the investigation without delay of the reason for the absence of any pupil. If the help of a public health nurse or a school nurse is available it will very much facilitate this part of the work and make it more efficient. To help the teachers a copy of Circular 227 should be put into the hands of each of them with a copy also of 228.

4. If any schoolroom has become infected it may ordinarily be disinfected between the school session of one day and that of the next by scrubbing the floors with soap and water or with disinfection Solution 7 (6 ounces of formaldehyde to one gallon of water), when that is available, wiping off with special care with the same solution the desk and seat which had been occupied by the infectious pupil. There is no need of any kind of fumigation of such rooms. Circular 220 gives more detailed advice about disinfection.

There are some distinct advantages in formulating a plan along these lines in advance of trouble and in adhering to it when trouble comes. Well carried out, it is better assurance of the public safety than would be the closure of the schools.

Under the supervision of the teachers who have received instructions, cases of infectious diseases are very often detected that would not be reported or found if the schools were closed. A secondary advantage is that school time and school money are not being wasted.

Dish Washing.

When infectious diseases are about the great danger of the transmission of infection by table ware and eating and drinking utensils should be borne in mind. That danger has been emphasized in the circulars of the State Department of Health. Observations made in connection with the influenza epidemic of last year presents us with further evidence of the gravity of this danger. In our army there were two general methods of cleaning the eating utensils; one in which the dishes were washed in boiling water, the other by the "old line method" in which each soldier washed his own kit in the water used by his comrades. In an experimental way in the same camps groups of two hundred men washed their dishes in the old way in water cool enough to be borne by the hands, while the dishes of other groups of the same number were washed in boiling water. In one army camp the number of men per thousand who came down with influenza among those with the old line method was 298 and among those using the boiling water it was only 46 per thousand. In other camps the influenza incidence among the soldiers under the old method was 4 or 5 times as great as among those for which their dishes were sterilized with boiling water.

The same kind of investigation was carried out in civil life in restaurants and the large department stores where the sickness rate was found to be 9 and 13 per thousand among employees where boiling water was used, 240 and 84 per thousand where the hand method was used.

In private life and everywhere particular care should be taken to sterilize with boiling water cups, spoons, forks, and everything else that is to be carried to the mouth.

Reciprocal Notification.

We appeal to local boards of health when investigating an infectious case or outbreak to get at the source of the infec-

tion. Every case of communicable disease comes directly or indirectly from some other case. To learn whence the infection came will often facilitate the doing of good work and save much trouble and expense for your own community.

And whenever anything comes to the attention of a local health officer that indicates a possibility of danger to persons in another town, make it a rule to report the matter promptly to the State Department of Health so the department may notify the other place to take action. In addition to the notice to the central department, it is still better to send a telephone message direct to near-by towns, when, to them, help may thus be given. There should be just as full and cordial a system of cooperation between towns and between states in this work against the infectious diseases as is possible.

Disinfection.

Three natural disinfecting agencies, *sunlight*, *fresh air* and *drying* are valued more highly now by the health officer than in years gone by. Three trustworthy artificial agents are *cleanliness*, *heat*, and *chemicals*.

Sunshine.

The infectious organisms of nearly all the communicable diseases are rapidly destroyed by direct sunshine, and more slowly by diffused sunlight. Protected by the folds of clothing, or packed away in trunks or boxes and excluded from the air as well as light, infected articles may retain their infectivity some time.

Things that cannot be subjected to boiling or other certain disinfecting processes should be exposed to direct sunshine several days. Such articles are woolen clothing, rugs, carpets and upholstered furniture. Then keep the sick room exposed to as much sunshine as possible for some further days.

Air and Drying.

The action of fresh air and the process of drying destroys the life of the disease germs of many of the infectious diseases. These organisms are one-celled plants depending for their life

upon the retention of a due supply of water within them. Darkness and dampness conserve their vitality while lowering the degree of resistance of the patient and his recuperative power. During the illness and all through convalescence, the sick-room should be reasonably well ventilated and filled with as much sunshine as may be comfortable for the patient.

Cleanliness.

Soap and water and, when need be, the scrubbing brush remove dirt and with it disease germs. Cleanliness is a fundamental requirement in the infectious disease sick-room—cleanliness of the room, of the bed-clothing, and especially of the hands and face of the patient and the eating, drinking and other utensils used by him. Still more important if possible is cleanliness and intelligent care on the part of the attendant in her work of caring for the patient and the sick-room.

Heat.

The most trustworthy and efficient of disinfectant agencies is heat. Sputum or other infective discharges are disinfected for a certainty when burned. The infection of nearly all diseases may be destroyed with moist heat at a temperature considerably below the boiling point of water—say at 150° F. for some time, but the nearer 212° F. the better.

Infectious discharges from the bowels may be disinfected by pouring upon them a quantity of boiling water six or eight times that of the matter to be disinfected.

Milk, often the carrier of the infection of typhoid fever, scarlatina, diphtheria, septic sore throat, tuberculosis and some other diseases may be rendered harmless by bringing it to the boiling point.

Spoons, forks, cups and other eating utensils are the most easily and effectually disinfected by pouring water over them.

So far as such things can be subjected to the process, cotton and woolen fabrics, handkerchiefs, towels, personal clothing and bed clothing are disinfected with the greatest degree of certainty by immersion in water or soap suds and later boiling a few minutes.

Chemical Disinfectants.

So frequent fatalities result from having carbolic acid or bichloride of mercury in households that it is best to discourage the use of these chemicals as disinfectants. Other chemical agents that are much safer are also more efficient germ-killers.

Solution 4, of the State Department of Health, is made by dissolving six ounces of chloride of lime in one gallon of water. It is used principally for the disinfection of dejecta—the disinfection of infectious discharges in the sick-room or the contents of privy vaults.

Solution 7 is made by pouring six ounces of the 40 per cent. formaldehyde into one gallon of water. Clothing may be disinfected by immersion in it; floors and woodwork and upholstered furniture may be scrubbed, sprayed or brushed over with liberal quantities of it; rugs and carpets may be sprayed plentifully, then rolled up and tied up tightly to remain thus for a few hours.

Solution 8 is made by mixing two ounces (4 tablespoonfuls) of either Kreseol or Coro Noleum with one gallon of lukewarm water and stirring or shaking thoroughly. It may be used full strength for the disinfection of sputum or typhoid discharges. For other purposes, such as indicated for *Solution 7*, it may be used half strength.

Time an Important Element.

It should be remembered that in disinfecting by immersion in solutions or in hot water, time is a very important factor. For the disinfection of excreta in typhoid fever, ample time, preferably several hours, should be given for the penetration of the solid matter by the disinfectant.

Whooping-cough.

State Department of Health of Maine.

To lower the unnecessary death-rate of the babies and younger children, this disease, whooping-cough, as well as measles must be controlled better than it is. Like measles, whooping-cough is a dangerous disease for young children. In the last six years, measles caused 303 deaths in Maine, while whooping cough did still worse, for 430 deaths were caused by that disease in the same time.

How Spread.

The infective agent of whooping-cough is received into the system through the nose and mouth, and after the child begins to show symptoms, he gives off the infection in what comes from the nose and mouth. Particularly when coughing, the infection is thrown into the air so that other persons may breathe it in. The infection may also be carried from the sick to the well by means of infected fingers, spoons, towels, drinking cups, or other things which may carry the infection directly from infectious persons to the mouth or nose of others.

Infective Period.

After a child who has never had whooping-cough has been exposed to that disease, from 6 to 14 days pass without a symptom. Then if he has taken the disease, the eyes of the child become reddened and he appears as though he had a slight cold. The cough, instead of becoming better in a short time as in an ordinary cold, becomes more frequent and more

troublesome. After some days, and in many cases it is some weeks, the spasmodic or "whooping" stage begins.

From the day in which the first symptoms show themselves, the child is infectious and may give the disease to other children; and from the beginning of the symptoms for five weeks and until the whoop has ceased entirely, the child should be kept from school and Sunday school and away from all children who have not had whooping-cough. So, just as in measles, the work of keeping the disease from spreading must begin early—with the child who has been exposed from the time of the very first symptoms or before.

Weighing the Danger.

Does the mother who exposes her baby to the infection of whooping-cough weigh the danger? If she carelessly or ignorantly lets her baby, in its first year, have the disease, she cuts down its chances of living from ten to fifty per cent. That is, from ten to fifty of the babies out of every hundred who suffer an attack of whooping-cough die. And then, in addition to that, the various complications which follow whooping-cough carry off many other children.

Nine-tenths of the children who die from the results of whooping-cough are taken off by broncho-pneumonia. Tuberculosis somewhat frequently follows whooping-cough. The severe and frequently repeated attacks of coughing, ending in vomiting, make it very difficult to keep up the nutrition of the child. Convulsions and even hemorrhage into the brain sometimes result from the intense congestion of the head and brain, which accompany what very often looks like a life and death struggle of the little one to get its breath.

For the Welfare of the Sick Child.

1. As the death-rate among children who have whooping-cough is very much greater when they have the disease in their first few years, they should be guarded from this danger in their earlier years. Children under five should be carefully shielded and so should all who are sick or enfeebled by other causes. It should also be remembered that whooping-cough is more dangerous in the cold season than in warm weather.

2. As the death-rate is much greater among children who are not well nourished and among those where the air and other

conditions in the home are not good, they should be kept in the open air as much as possible when the weather permits. When indoors they should have well-ventilated rooms, but they should be protected from direct drafts. It is still more important not to let them stay in too hot or too dry an atmosphere.

3. Indoors or out, the life of the whooping-cough child should be quiet mentally and physically. Too vigorous exercise or the excitement of laughing or crying serves to bring on attacks of coughing and the vomiting which often accompanies the paroxysms of coughing.

For the Safety of Other Children.

One of the most eminent of our medical authors says: "There is perhaps no other disease causing the same amount of suffering and the same danger to life as whooping-cough in which there is an equally shocking disregard of the rights and feelings of others."

Whooping-cough is one of the diseases that must be reported to the local board of health, and while strict quarantine of the family is not required, the local board has full authority to require parents to keep infectious children from coming in contact with other children.

For the good of the children, parents and teachers should be willing to work with the local boards of health to carry out these rules.

1. Whether indoors or out, keep the child who has whooping-cough away from other children who have not had that disease. It is just as important not to let the child spread infection who has been exposed and is showing those first symptoms which may mean whooping-cough—reddened eyes, a little cold in the head, and a beginning cough—for the disease is infectious at this early state. This means that we must think and act early.

2. For the safety of children in the same family who have not had whooping-cough, the sick one should be especially cared for in a room by himself. The infection usually does not involve the whole house; but the danger to the other children is in coming in contact with the sick one or in having the infection *carried* to them: (a) by the hands and perhaps by the clothing of those who take care of the sick; (b) by the things which have been used by the sick one.

3. The attendant upon the child with whooping-cough should have washbasin, soap and towel used by no one else, and when she must leave the sick one she should wash her hands very carefully before she touches things to be used by other persons.

4. The sick one must have drinking cups, spoons, towels, napkins, handkerchiefs, and everything else for his own use which might carry infection to others if they are used in common, for the surest way of carrying infection is by means of those things which may carry it directly to the mouth or nose.

5. The infection of whooping-cough is short-lived. A formal disinfection of the house is therefore not needed if the child recovers. If it dies, particularly before it has been sick long, the sick-room and its contents should be carefully cleaned and disinfected—cleansing, airing out, and exposure to sunshine. Disinfect the things used by the sick child by washing, boiling, or by steam disinfection.

Save the babies. Eliminate whooping-cough and measles. These two diseases, and the troubles that follow them, kill many babies every year.

Dysentery and the Diarrheal Diseases.

State Department of Health of Maine.

Under the rules and regulations of the State Department of Health dysentery is put in the list of notifiable diseases. This is because of the fact that it is an infectious disease dangerous to the public health. It is the duty of parents and householders, as well as of physicians, to report cases to the local boards of health so that the family may be helped to prevent the spread of the infection.

That which is true of dysentery is also true of the diarrheal diseases of children, particularly of those which are so prevalent during the summer months and which cause the death of many babies. The infectious matter is given off by the sick ones in the discharges from the bowels, and in some cases the sick continue to thus give off the infection for some time after they have apparently fully recovered.

It is also true that the indigestion which is the result of improper feeding has much to do with increasing the sickness-rate and the death-rate from the diarrheal diseases and in preparing the way for the infectious diarrheas. Every mother and every expectant mother should be supplied with a copy of Circular 271, Hints on Nursing the Baby, and Circular 272, How to Feed the Baby, issued by this Department.

How the Infection is Spread.

These infectious diarrheal diseases are spread just as typhoid fever is spread—particles of the infectious matter passed from the bowels find their way into the mouths and into the stomachs of other persons. An invisible trace of this infection may be enough to give the disease to another person.

These are some of the ways this infection may be spread: (1) The person caring for the sick soils her hands with the discharges from the patient. Unless she washes them thoroughly the invisible trace of the infectious matter remaining upon her fingers may be carried directly to her own mouth or may infect her own food or that of other persons. (2) The domestic well or other source of water supply may become polluted by the discharges being thrown out where a little of the infectious matter may find its way into the water by surface drainage or by soakage through the soil. (3) Flies, in their flight from the sick room or from privies or other places where the discharges have been thrown may carry the infection to the pantry or the table or other place where milk, cake, bread or other food may be; or flies may carry the infection directly to the lips of the sleeping babe.

Prevention.

For the prevention of the further spread of dysentery or infectious diarrhea after a case has occurred in a house, the following seven rules should be put into effect very promptly:

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Rule 1. Care should be taken to limit, just so far as possible, the infection of things by the discharges from the bowels of persons suffering from dysentery, or from children who have this disease or infantile diarrhea. Clothing, bedding, furniture and floors should be saved from soiling. The utmost cleanliness should be the aim under this rule.

Rule 2. If by chance the clothing or bed-clothing become soiled, the unclean articles should be washed in soap and water and boiled as promptly as possible; and the soiled places on floors or furniture should be washed up with a disinfecting solution, or at least with soap and water.

Rule 3. All discharges from the bowels should be disinfected promptly and carefully, and this work of disinfection should be continued for some days after the patient has apparently fully recovered.

The disinfectant used may be Solution 8 of the State Department of Health, consisting of 4 tablespoonfuls of Kreso or Coro Noleum to the gallon of water, a quantity of it three or four times as large as that of the discharge to be disinfected and the infectious matter should be left exposed to the action of the disinfectant three or four hours. More than one chamber vessel will thus be needed.

Or, the vessel may receive boiling water, eight or ten times the bulk of the discharge. Keep from rapid cooling.

In the case of infants, the soiled diapers should be immersed promptly in a quantity of the disinfecting solution kept for that purpose in a tub or large crock.

Rule 4. In the final disposal of the discharges from the patient and of the water used in the washing of the diapers, there should be very great care not to throw them out where they might possibly pollute and infect wells springs, or other sources of drinking water.

Rule 5. Remember the great danger of carrying infection to the food and to the things used in serving food by invisible particles of infection upon the fingers, even after the hands have been washed, if the washing is not thoroughly done. The rule must therefore be that the mother, or nurse who cares for the sick one shall give her hands a careful and prolonged washing with soap and water if they have been soiled with the discharges, or other unclean matter, giving particular attention to the spaces under the finger nails.

Rule 6. With babies these infectious diarrheal diseases are much more likely to occur among those that are fed from the bottle. One reason for this is that there are so many chances for unclean matter and infection to be carried to the mouth of these children in the milk and milk-mixtures or by the nipples, bottles or other containers that are not kept strictly clean.

There must be constant care that milk all the way from the cow to the baby is kept clean. In the home, everything in which the milk is kept and everything used in making up the milk-mixtures and in feeding the baby must be kept as clean as soap and water and boiling can make them. (See Circular 272).

Rule 7. By means of screens, and otherwise, flies should be kept out of the home and particularly from the sick room, else they will carry infection to food from the sources of infection within the home or from privies outside. For lessening the prevalence of these diarrheal diseases and of typhoid fever, privy-vaults so built that flies cannot get into them should be insisted upon.

Advice about Scarlet Fever.

ISSUED BY THE STATE DEPARTMENT OF HEALTH OF MAINE.

Scarlet fever, which is sometimes called scarlet rash or canker rash, is one of the dangerous contagious diseases. It is spread in several ways; (1) Directly from the sick person. (2) By things which have been infected by the sick one. (3) By eating or drinking something which has been infected by being handled or by having been near persons who have scarlet fever. (4) By some person who has been with the sick one.

Signs.

Fever, vomiting, sore throat; a bright red rash over the skin coming out in from 12 to 24 hours after the sickness begins; some weeks later the skin peels off in flakes or scales. In some mild cases there is only a slight sore throat with a rash which may not be noticed and the peeling of the skin is not very noticeable.

Dangers.

Many children die within a few days or a few weeks. Others die later of inflammation of the kidneys with dropsy or convulsions or from other diseases due to scarlet fever. Others are left weak and sickly for a long while or always, and often with running ears and deafness. Keep the disease away from your children if you possibly can. It is too dangerous for your little ones. If you can protect them until they are twelve years old or more, they will then not catch the disease so easily. Many persons have never had scarlet fever because they were kept away from it while they were small.

How to Protect Your Children.

Keep your children away from persons and places where scarlet fever is, and keep away yourself. Do not let anybody come into your home who has scarlet fever or who has been where it is until the board of health says they are all right. Look out for things which have come from homes where there has been scarlet fever. They may be infectious. Keep such things away from your children.

When scarlet fever is around, keep your children out of street cars, away from theatres or other places where children assemble; and be particularly careful to keep them away from children who are ailing or who have sore throats or a rash of any kind.

If Scarlet Fever Gets Into Your Home, What?

If one child in your family has scarlet fever, do everything you can to keep it away from the others. Put the sick child into a room by himself and have some good person there to take care of him. Keep the other children away. Do it quickly, just as soon as the child has a sore throat. If scarlet fever has been around, do not wait for the high fever and the rash, it is catching before that. If scarlet fever is not coming on, it may be that other dangerous disease, diphtheria.

Then send for the doctor early. He will tell you what to do to save the other children from the disease.

What Next?

Your second thought should be not to endanger other people's children. Be careful not to let anybody from your house carry the infection to other houses, or to school, or to church, or to other public places. The law provides a severe penalty for carelessness of that kind, but you want to do the right thing anyway, and to be careful to save your neighbor's child from the danger, just as you should demand that they do nothing to endanger your child.

What Then?

The next thing to do is promptly to notify the local board of health or have the doctor do it.

Rules for the 'Sick-room.

There are several things which should be kept in mind in preventing the spread of scarlet fever.

(1) If possible, have the sick one in a room by himself. Have all unnecessary things carried from the room before the sick one is carried there. Have good air in the room but avoid direct drafts. Many children lose their lives by getting out too soon after they have had scarlet fever even after the disease in a very mild form.

Another reason why the child should not get out too soon is that the scarlet fever child is infectious a long time. Many children after scarlet fever are dangerous to others for 30 days or longer.

(2) There is a special danger from everything which comes from the mouth or nose of the patient, or from discharges from the eyes or ears or from abscesses. All such matter should be received on pieces of cloth or soft paper and burned promptly.

(3) When the nurse must leave the sick-room she must be very careful not to carry infection. There is danger of carrying the infection in her clothing and on her hands. She must be very careful to wash and disinfect her hands when she leaves the room.

(4) Anything carried out of the room and packed away, clothing, toys, or anything else—may remain infected a long time. Everything must be disinfected before it goes from the room.

(5) Milk and some other foods are very easily infected if they are handled by persons who have scarlet fever or who have been near that disease.

(6) If the head of the family can and will keep strictly away from the sick-room and from all infectious persons and things, the board of health will try to give him as much liberty as possible in attending to his usual work.

(7) No child must return to school from the infected house until he receives a permit from the board of health.

Disinfection.

Promptly burn all worthless articles is the best way. Boiling for half an hour is sure for clothing or other things which can be boiled. Scalding with boiling water for spoons, forks, cups and other eating utensils will make them safe. Steaming in a tin wash-boiler for an hour after the water is actually boiling will do for clothing. The clothing must be supported above the water on a false bottom of board or lath and that on two bricks set on edge. Disinfect the hands with thorough washing with soap and water. Ask the local board of health for further information.

Work with the board of health for that which will be for the greatest good of all—the prevention of the spread of scarlet fever. Be honest, be square, and the board will help and favor you all it can.

L. D. BRISTOL, M. D.,
Commissioner of Health.

Advice about Typhoid Fever.

ISSUED BY THE STATE DEPARTMENT OF HEALTH OF MAINE.

We have very much less typhoid fever in Maine than we had twenty years ago, but we must cut down the death-rate from this disease even more. Read this circular, remember it, and help!

Source of Infection.

The source of infection is the intestinal and bladder discharges from persons who are sick with typhoid fever or, who are so-called healthy "carriers." We get the infection by eating or drinking particles of infectious material from those discharges.

How Infection is Spread.

These are some of the ways in which the infection gets into the mouth so as to be swallowed:

(1) The hands of the nurse or other person caring for the sick one may carry the infection to her own lips, or may infect her own food or that for other persons; (2) the sources of water supplies become polluted so that infection may be received through drinking water; (3) milk is often the medium through which typhoid fever infection may be received, and other foods which have been handled by persons who have recently had typhoid fever, or who come from places where typhoid fever is present, may also be infected; (4) by "carriers" as above noted.

Prevention.

It should be remembered that typhoid fever may be taken directly from the patient just as diphtheria or scarlet fever is taken. For the prevention of the further spread of typhoid fever after a case has occurred in a home, the following twelve rules should be put into practice.

Rule 1. All discharges from the patient should be disinfected promptly and thoroughly. This disinfection should be begun with the first suspicious symptoms and should be continued late. A quantity of the disinfecting solution three or four times as large as the bulk of the discharges should be poured over them and left three or four hours after thorough stirring and mixing. Your doctor and the board of health will advise.

A surer way is to carry out the vessel and mix with the discharges eight or ten times their bulk of boiling water. Keep from rapid cooling.

Or, put into the vessel a teacupful of fresh, unslaked lime; then pour over it a pint or a quart of boiling water, and mix well. Cover and keep from cooling.

Rule 2. Persons who are caring for typhoid fever patients should be extremely careful to wash very thoroughly and to disinfect their hands after they have attended to the wants of the patient. There is great danger of the spread of infection by means of infected fingers.

Rule 3. Very great care should be taken to prevent the soiling of the personal clothing and of the bedding of the patient. The mattress

should be protected by a rubber blanket. Any clothing which is soiled by the discharges from the patient should promptly be removed and put into a disinfecting solution. Many nurses who attend typhoid fever patients contract the disease. They are endangered, not only by infection carried upon their fingers, but by that which arises as dust from the clothing and bedding of the patients which have been soiled and then dried.

Rule 4. The patient should have cups, spoons, and all other eating utensils for his exclusive use. They should be washed in, or close to, the sick-room and their general use should not be resumed until they have been thoroughly scalded in boiling water.

Rule 5. Nothing should be eaten by attendants in the room which is occupied by a typhoid fever patient. There would be much danger of swallowing infection while partaking of the food. All remnants of the food brought to the sick-room for the use of the patient should be promptly burned.

Rule 6. Many serious outbreaks of typhoid fever are due to milk which has been infected with the germs of that disease. A few typhoid germs introduced into milk by the foot of a fly, or by the fingers of a person who has been near a case of typhoid fever, or by anything which comes from the patient, finds milk so good a culture medium that the few germs may very quickly become thousands. Boiled or mashed potato also serves as a medium for the rapid growth and multiplication of the bacteria of typhoid fever. These facts make it clear that the food and drink for a household in which there is a case of typhoid fever should be heated up just before it is served.

Rule 7. The sick-room should be carefully screened, and flies should be rigorously banished. If any gain access to the room, they should be promptly killed with a swatter kept on hand for that purpose.

Rule 8. Flies should be banished, not only from the sick-room and from the other rooms of the home, but there should be very great care to have the privy so built and so cared for that flies may not enter the privy vault so as to be distributors of infection. Flies play a dangerous part when typhoid fever has entered the home.

Rule 9. Even after the discharges from the patient are thoroughly disinfected, there cannot be too great care in the final disposal of them so that there may be no possibility of the pollution of the water of any spring, well, brook, or other source of water supply.

Rule 10. Unnecessary persons should not be allowed to visit those who are sick with typhoid fever, for, when trained nurses under hospital regulations, very often take typhoid fever, we may safely say that there is much greater danger of other visitors taking the disease.

Rule 11. Typhoid fever, formerly a severe scourge during military operations and in military encampments, has been practically banished from our army and from the military and naval forces of some other countries by means of protective inoculation. The typhoid vaccine has proved so valuable that there should be no hesitation in civil practice in using it much more freely than it is now used. Nurses and travellers and others who are especially exposed to the danger from typhoid fever should be protected by it. Such typhoid prophylactic may be obtained free of charge from the State Department of Health.

Rule 12. In addition to the work of disinfection which should be carried on during the whole course of the disease, a careful disinfection of the room, bedding, clothing, and other things which have been occupied by the patient or used by him, should be done under the direction of the local board of health.

L. D. BRISTOL, M. D.,
Commissioner of Health.

The Danger From Measles.

State Department of Health of Maine.

People generally have been ranking measles as one of the diseases from which there is but little danger and therefore one with which it isn't worth while to bother. But the fact is that measles is a very serious infectious disease. The number of deaths from measles in our state is on the average more than twice as many as from scarlet fever and is more than one-half the number of the deaths from diphtheria.

But this is far from being the whole story of the measles danger. Many children are left for some time, or for a long time, with impaired health; some acquire impaired hearing or become deaf from suppurative inflammation of the middle ear; nearly all are left with their eyes so weakened that defective sight may be the result if they return to school too soon. In military encampments the advent of this disease is always considered a serious matter, for the rapidity with which it spreads and for the high death-rate which, in such places, accompanies or follows an outbreak.

Aside from the death-rate which is charged to measles, many lives are lost from pneumonia, bronco-pneumonia and other affections which are the sequels of measles; and tuberculosis, aggravated by or following measles, claims many victims.

Childhood's Danger Period.

In the early years of childhood the danger from measles is especially great. In the deaths from that disease in a series of years in Maine, 67% of them have been in children under five years old, and 75% under ten years. It is a foolish mother who says to let the little ones have measles early and be over with it. Children under five years old particularly should be

guarded carefully from the infection of measles. If it is thought that they must have it, they should be protected from the disease until they are at least ten or twelve years old.

How Measles is Spread.

The most infectious period is in the catarrhal stage before the rash comes out. It may be spread also during the stage of the eruption. It is spread chiefly from the sick person directly to the well person in such ways as these :

1. Infection given off by the sick person in the discharges from the nose and mouth may be thrown into the air as minute particles or droplets in the act of coughing or sneezing and in the sick-room may be breathed in by other persons.

2. One may catch the disease by using the same spoons, cups, or other things which have been used by the patient before those things have been scalded or otherwise disinfected.

3. Fingers may carry the infection to one's lips or nose after shaking hands with a measles patient or handling his handkerchiefs, towels, or clothing or other things which have been soiled by the watery discharges from his nose, eyes, or mouth.

4. It may be conveyed by the nurse or mother who cares for the sick one if she has not been long or far from the sick room.

When Measles is Suspected. What ?

Altogether the safest way is to have the advice and care of your family physician. But, the very first thing to do, not waiting for the doctor to come, is to put the sick child into a room by himself away from the other children. Into that room carry everything which the sick child has used or played with since the first symptoms showed themselves—towels, napkins, cups, spoons and toys, especially all the things that he may have had in his mouth.

Sick-Room Rules.

1. The other children and all unnecessary persons must from the first be kept away from the sick-room. If at first you must have help and no other help is at hand, an older child or other person who has had measles (not German measles which is an entirely different disease) may help you.

2. If the mother must leave the sick-room and do the cooking or other service for her family, the first precaution for her to think of is to wash her hands very thoroughly before she goes near other persons or touches anything outside the sick-room, particularly food or eating or drinking utensils, or towels or other things which may be used about the face. It would be much safer if the mother or nurse would wear in the sick-room a loose protective gown which could be put off as she leaves the sick-room.

3. Receive all discharges from the nose and mouth upon pieces of cloth or soft paper toweling, put them into a paper bag and burn the bag and contents when nearly full. After handling these things, the attendant should wash her hands carefully.

4. Further, with the view of keeping the infection in the room, never let anything go from the room (towels, handkerchiefs, the patient's clothing or bed clothing, eating or drinking utensils, toys, or anything else that has been in use about the patient) until they have been made safe by boiling or by placing them in a disinfection solution.

5. Do not overheat the room. Provide good air but avoid drafts. Let into the room as much light and sunshine as possible. That will insure, in some degree, against the respiratory diseases which carry off so many children after measles. Shade the eyes if need be.

6. Unless the child who is sick with measles has intelligent care, there is great danger of the various complications which often follow measles in the days or weeks of convalescence.

Schools.

Children and teachers in the family who have had measles may continue at school if they are isolated from the other members of the family. Children who have not had the disease, but who have been exposed to measles, must for two weeks be kept entirely away from other children—from school, Sunday school, moving picture shows, and all other meeting places of children.

With the cordial cooperation of parents, teachers, and boards of health, as is required by our health laws, child life

could be much better protected and the loss of school time and school money due to school epidemics would be very much lessened.

Disinfection.

Fumigation is not required after measles, but instruction should be given that all the clothing, bedding, sheets, pillows, pillow cases, etc., which can be thus treated shall be boiled or disinfected by soaking in a disinfecting solution. For this purpose, Formaldehyde or Kreso (Solution 7 or 8 of the State Department of Health, given in Circular 220) may be used.

During the illness the sick-room and its contents should be kept as free from infection as possible by the continuous process of disinfection and cleansing. When the patient has left the sick-room, a few day's airing and exposing to as much sunshine as is possible may be trusted to free the room from danger, for, as has been stated, the infection of measles is short-lived when exposed to the action of free air, drying and sunshine.

On the Management of Outbreaks of Smallpox.

When smallpox or persons who have been exposed to smallpox come into your town, act quickly. When there are rumors of infectious persons or things, investigate at once.

The powers of local boards of health are ample enough in almost any contingency. See "Rules and Regulations" and powers and duties of local boards of health in "Abstract of the Health Laws."

The *duty* of the board is to act promptly. The whole matter is in the hands of the local board. No time should be wasted in running around to get the consent or approval of the municipal officers or anyone else. Your town will be obliged to pay all reasonable and honest bills, and the more promptly you act the smaller the bills will be.

If any person breaks quarantine, violates the provisions of the health laws, or interferes with the work of the board so as to prevent the execution of the provisions of the law, have him arrested at once. If infectious, he can be held in any kind of a "shack" until he can be disinfected and brought before a justice for trial.

Suspects, or Exposed Persons.

Trace out as speedily as possible every person who has been exposed to the infection of smallpox. Make a note of the date of exposure.

When located, vaccinate every such person as soon as possible. Vaccinate also all of the members of his family or of the household in which he lives.

As to the question of quarantining a person who has been exposed to smallpox:

If he is a transient, keep him under close quarantine. If he is a permanent resident and trustworthy, keep him under observation.

Persons who have been exposed to smallpox should be considered under two classes:

(1) Those who have been exposed but once to the infection and are immediately vaccinated. These should be kept

under observation until there are unmistakable evidences of the success of the vaccination, when they can be discharged from further surveillance.

(2) Persons who have been exposed to smallpox and several days (over four) have elapsed before vaccination. These should be kept under observation sixteen days from their last possible exposure. The wearing of their own infected clothing should be deemed a continuation of their exposure.

As soon as a person has been isolated on account of exposure to smallpox, give him a change of clothing (in warm weather, overalls and a blanket may suffice), have him disinfect his hands, face, head and beard, at least, by washing in a 1:1000 solution of corrosive sublimate. For the whole body, 1:2000 or 1:3000 would be safer. Disinfect his clothing as soon as possible and have him put it on again.

Persons who are under quarantine or under observation on account of exposure to smallpox should be inspected by a physician at least once daily during the period of incubation.

Vaccination.

In the vaccination of persons who have been exposed to smallpox, "time is money." The failure of prompt vaccination sometimes costs towns much money. The persons exposed and all members of their families should not only be vaccinated as quickly as possible, but the vaccination should be done again and again, if necessary, until a "take" results, or there are other good reasons to believe that all these persons are fully protected.

Prompt vaccination is required for the exposed person that the vaccination may get ahead of smallpox and modify it or prevent it entirely, and for the persons housed or associated with him the aim should be the speediest possible "takes," so that these persons may be fully protected if the person already exposed develops smallpox.

If, after persuasion and reasoning with them, suspects refuse to be vaccinated, apply an absolute quarantine, just as long as may be necessary.

As to the value of vaccination, it may be said that the protective power of a recent and successful vaccination is nearly if not quite as absolute as that from a previous attack of smallpox.

As to the dangers and diseases which may come from vaccine virus, it is safe to say that they hardly exist with the strict governmental supervision of the production of vaccine

which is now in effect, and that undue soreness of the arm as a result of secondary infections of the vaccinated spot with the germs which are always present in the skin and in the clothing, and which sometimes cause inflammation and even suppuration may be controlled by local applications when occasionally they are needed.

The health officer, even if not recently vaccinated, need not hesitate to attend promptly to any duty which an emergency may present. If he is exposed to smallpox and is carefully vaccinated soon afterward (within one or two days, although the sooner the better) the vaccination, on account of its more rapid development will get ahead of the smallpox and prevent it.

Quarantine.

The quarantine of every smallpox patient should be prompt and absolute. If there is the slightest reason to suspect that the members of the household may not be trustworthy, a guard should be placed over every infected house day and night, and special visits should be made at unexpected hours to see whether the guards are doing their duty faithfully.

Nurses.

When it is known that persons have been exposed to smallpox, the local health officers should promptly arrange for the worst. Facilities for the quarantine and the treatment of the sick should be considered before the actual cases are on hand. Nurses and medical attendants should conditionally be engaged in advance.

For nurses, have persons who are thoroughly protected by a recent successful vaccination, or who have had smallpox.

Hospitals and Camps.

When smallpox breaks out, the question will often arise whether the sick shall be kept and cared for in their houses, or the houses in which they are found, or shall be removed to other quarters. When practicable to do so, their removal is desirable. If removed, the house from which they are taken should be disinfected with the least possible delay.

When a house is not available as a hospital, a temporary camp or shed may quickly be built, which will be safe and comfortable for patients and attendants.

Persons who have been exposed to smallpox and persons who show uncertain symptoms of the disease should not be confined with smallpox patients, until the diagnosis of smallpox is clear.

For advice about disinfection see Circular 220, "The Work of Disinfection."

Brief Points for Non-Medical Members of Boards of Health.

The period of incubation of smallpox—time from exposure to the first symptoms of the disease—is twelve days on the average. It may be longer or shorter. In about three days more the eruption begins to show as small red specks, and then as pimples or papules, at first on the forehead and wrists, gradually extending over the body so that the eruption becomes general in about twenty-four hours. On the first and second days of the eruption it is papular, and the characteristic "shotty" sensation is obtained by passing the fingers over the skin. During the next twenty-four hours the papules become vesicles, with clear summits.

In ordinary cases the vesicular stage lasts about two days and then the vesicles, increasing in size and turning yellow, become pustules, remaining so about four days before they begin to dry down so that scabs are formed. But in the mild and atypical cases of smallpox the eruption, or much of it, may go through its transformation much more rapidly, or much of the eruption may abort at various stages, going no farther than the papular or vesicular stage.

The onset of the disease is usually sudden with chilliness, fever, headache, pain in the limbs, nausea—some or all of those symptoms, just about as they are in an attack of influenza, or grip. With the appearance of the eruption, or some hours before, there is a sudden drop in the temperature, the other symptoms get better or disappear, and many smallpox patients then say they feel as well as ever except the annoyance due to the eruption. In mild cases there is no return of the symptoms, and the patients need but little of the attention of the physician until his judgment is wanted to determine whether the time has come when they may safely be released from quarantine after the required disinfection has been done. But in the severer cases with profuse eruption the temperature rises again on the seventh or eighth day and this "secondary fever" is the most critical stage in bad cases.

Smallpox is an intensely infectious disease, but rather less so before the eruption has appeared. The patient is infectious until the skin is entirely cleared of crusts, and until the secondary desquamation of the pock marks has ceased.

The period during which it is necessary to quarantine for the safety of the public varies in different cases from three to six weeks, or even longer.

Is Vaccination a Good Thing?

Issued by the State Department of Health of Maine.

Is there any one thing relating to the welfare of the human race that remains wholly unquestioned? To those who know what vaccination has done and is doing for the world, it is hard to understand how persons can doubt its value. Arguments against vaccination rest almost wholly upon these declarations: 1. "It is useless." 2. "It is dangerous." 3. "It is an invasion of personal liberty."

Is it useless?

In 1760 to 1765, before vaccination was known, it was estimated that 15,000,000 human beings died of smallpox every 25 years. Before the House of Commons, in London, the statement was made in 1802 that "It is proved that, in this United Kingdom alone, 45,000 persons die annually of smallpox. The French minister of the interior reported in 1811 that 150,000 people died every year of smallpox in France. The official Danish records say that in Iceland in 1707 smallpox destroyed 18,000 out of the total population of 50,000. Nearly two-thirds of the population of Greenland was taken away by smallpox in 1734. In 1752, when the total population of Boston was 15,884, a severe epidemic of smallpox started there. Of this number 5,998 persons previously had smallpox, in this epidemic 5,545 others had the disease, 2,124 inoculated themselves with smallpox virus, hoping thus to escape with a milder attack, 1843 people fled from the town to avoid the danger of infection. When the pestilence was over, only 174 persons were left who had never had smallpox.

Vaccination is the only reason why such smallpox calamities do not now swoop down upon us. It is not because of better surroundings, for smallpox and measles are two of the diseases that go on irrespective of sanitary conditions. It is merely a matter of exposure to infection, with the saving grace of vaccination helping us in smallpox.

When the United States took charge of the Philippines, smallpox had for a long time been disastrously prevalent in the

islands. Just before the American occupation, in the provinces near Manila, there had been 6,000 or more smallpox deaths annually, but the annual report of the Bureau of Health for the Philippine Islands stated that in 1907, after a systematic vaccination of the people had been done, not one smallpox death occurred.

The same lesson comes from Cuba. The disease was rampant in the island before America took temporary charge. Six per cent of the total number of deaths in Havana was from Smallpox. General vaccination was done. For years after that there were no cases of smallpox save those brought on vessels, with one exception. That was a male nurse in the hospital for contagious diseases to which a Syrian girl with smallpox had been taken off a boat. All the other nurses and doctors were protected by vaccination, but this man who took smallpox and died of it evaded vaccination by deception.

The same results of the American occupation of Porto Rico are noted. Smallpox was banished by vaccination. Before the Chinese-Japanese War, smallpox epidemics were frequent in Japan. General vaccination stamped it out and smallpox epidemics have remained events of their earlier unenlightened years.

In those European countries where vaccination is compulsory, smallpox almost never arises among their own people; in those countries where vaccination is neglected, epidemics of smallpox are frequent. In Sweden, before the vaccination era, the deaths from smallpox were 2,045 per million of their population; with optional vaccination, 408 per million, with compulsory vaccination rigidly enforced, the rate from 1884 to 1893 was from 0.2 to 5 per million.

In earlier years wars were again and again lost by the neglect of vaccination. In the Franco-Prussian War, the French army had 50,000 cases of smallpox and many deaths; the German army, more carefully protected by vaccination, had only 300 cases. In the military administrations of all advanced countries vaccination is now considered an indispensable piece of strategic preparedness.

Physicians the world over trust to vaccination, and to nothing else, to protect themselves against smallpox. Two irregular practitioners in Maine a few years ago who did not believe in vaccination took smallpox. One died, the other was with difficulty saved from the same fate.

It is true that vaccinated persons may take smallpox. Sometimes persons have smallpox more than once. Persons with their second illness with smallpox have been seen in Maine in

recent years. One of the kings of France died in his second attack of that disease.

One vaccination has protected all through life even when there has been prolonged and intimate association with smallpox patients, but it is not best to trust too long to a single vaccination. Vaccination in early childhood and again ten or twelve years afterward, as is done for everybody in some countries, gives the people such a degree of immunity that epidemics of smallpox are unknown among them.

Is Vaccination Dangerous?

When the protective covering of the human body, the skin, is broken by a scratch, cut, or puncture, or by the breaking of a festering pimple or a boil, there is always the possibility of results that may be annoying or painful, or even fatal.

When vaccination is done we aim to produce a vaccine vesicle and pustule which will be protective against smallpox. This vesicle need not be a larger or more serious sore than a single one of the pustules covering the body of the smallpox patient in numbers ranging from a few to a thousand or more.

Ordinarily, the slight local annoyance at the site of the vaccination is the only troublesome result. If the vaccination does not receive proper care, is irritated, or if dirty fingers—which mean infectious fingers—come in contact with the vaccine sore, it receives a secondary infection which makes unnecessary trouble, and the vaccinated person may have a slight rise of temperature for a day or two, but this rarely occurs.

In smallpox, on the other hand, a secondary rise of temperature about the eighth day of the eruption is a characteristic symptom of the disease in all but mild cases, and this secondary fever is due to the absorption into the system of the poisonous matter in the smallpox pustules, and in severe cases of smallpox this blood-poisoning and its accompanying fever are intense. This blood-poisoning constitutes the critical stage of smallpox. That of vaccination is nothing in comparison with it.

One of the arguments of anti-vaccinationists is that if you are vaccinated, there is danger of having grafted into your system, syphilis, tuberculosis, or some forms of blood poisons. The questionable wisdom of that advice is shown by the fact that long ago arm to arm vaccination ceased; that all the vaccine now used is taken from calves which must be proved to be free from disease; that syphilis is never present and cannot be inoculated into the bovine race; that calves, at the ages used are almost never tuberculous (in one city one tuberculous calf only in 34,400 slaughtered and inspected, in another, one

tuberculous case in 22,230; nevertheless, before the vaccine is used, each calf in the vaccine establishment is slaughtered and carefully examined against the hardly existing possibility of tuberculosis; furthermore, the vaccine from the calf is put into a glycerine mixture which destroys every tuberculosis germ that might be present. It destroys them, when in experimental tests the tubercle bacilli are added in innumerable numbers. This "glycerinated vaccine" destroys just as effectively all the germs from which we might possibly get blood-poisoning.

A statistical investigation made in France some years ago showed that there was a decidedly smaller prevalence of tuberculosis among their people who had been vaccinated than there was among those who chose smallpox instead of vaccination.

The truth of the matter is that all the danger there is from vaccination comes from the possibility of secondary infection. As any broken place in the skin or slight sore may receive secondary infection, the place of vaccination should be kept clean, not rubbed or irritated, and from the sixth day or so, after it is certain that there is a "take," an antiseptic application should be at hand for application to prevent undue soreness.

As an example of the slight possibility of dangerous results from vaccination, in the Philippine Islands the United States authorities vaccinated, within a few years, 3,515,000 persons without a single death or any serious complications.

"It is an Invasion of Personal Liberty."

Is it? There might have been a chance for that question between Robinson Crusoe and his man Friday. But we, still standing for personal liberty so long as our acts do not conflict with the welfare and safety of other persons, have no right to establish a powder-house in a thickly populated community nor to maintain a nuisance which may endanger the health or lives of our neighbors, or otherwise be prejudicial to them. In the matter of smallpox we have personal responsibilities as citizens of our communities and of our state. If we fail to protect ourselves by vaccination and as a result have smallpox, we make public nuisances of ourselves. If we remain unvaccinated and escape smallpox we are an imposition upon others who, with more sense and a keener appreciation of their duties as good citizens, have actually protected us in some degree by having themselves vaccinated and thus lessening the "inflammable" material, and so making the chance for smallpox "conflagrations" much smaller than it is in a wholly unvaccinated community.

The School Teacher and Sex Education

By W. G. ELIOT

*Chairman, Committee on School Coöperation, Oregon Social Hygiene Society,
Portland, Oregon*

School teachers who have become interested in the general field of sex education and in the work of social hygiene societies are inquiring, "What can we do to help?"

Teachers can help in various ways, as we shall see; but our first word must be one of caution.

CAUTION

Some teachers who make this inquiry have vague ideas of "introducing it into the schools." Some advocate direct and specific instruction in matters of sex and reproduction. Few realize the difficulties. They are aware of the emergency; they have an idea, possibly an exaggerated one, of what sex instruction can effect; they shun false modesty, and they are emboldened by the thought that any information they may impart will be less harmful than the misinformation already acquired by their pupils. It is true that an emergency exists. It is true that the wise imparting of information is important. It is true that false modesty has been a hindrance. It is true that wise instruction by the right person, at the right time, in the right quantity, and in the right spirit can do no harm and will really help. But it does not follow that teachers in general, nor self-appointed volunteers among them, are able immediately and without experience or preparation, and without proper textbooks, to introduce it into the schools or to teach it themselves; nor should they be permitted or authorized so to do.

The reasons for these conclusions are: First, most teachers lack the technical knowledge essential to the work; second, they lack training in the pedagogy of sex instruction.

ESTABLISHED PRINCIPLES

Teachers who are eager to take up this work will better understand what can and cannot be wisely done in the schools, if they

will remember and consider carefully the following well-established principles:

1. Parents ought to be the advisers of their children in these matters. Upon the parents should rest the main burden. No school can take a wise parent's place nor do for all children what parents ought to do.

2. A clear line of demarcation lies between what can and what cannot be done in the schools. There is a wide difference between personal, private counsel concerning the morals of the sex impulses (i.e., the attempt directly to control sexual behavior) on the one hand, and on the other hand, the teaching of elementary scientific facts of sex and reproduction in the organic world. The latter is a proper but limited field for work in schools; the former should not be treated except under special circumstances.

3. Such information on reproduction and the laws of sex as may properly be imparted by class instruction in the schools ought not to stand out separately but should be an organic part of courses in nature study, botany, zoology, and physiology. In fact, much of the information which might properly be conveyed to pupils in their classes may be given without the slightest consciousness on their part that what they are receiving is "sex information." The simplest facts of biology bear on our problem.

4. Such a program, even thus definitely limited, will require conservative experimenting. Experimenting of this sort can be attempted at any time, if properly authorized and safeguarded. The American Social Hygiene Association will furnish upon request information about successful attempts to teach the facts of sex in connection with the courses in biology. Normal schools must undertake the definite instruction and training of teachers.

Teachers should not attempt to "introduce sex hygiene into the schools" without authorization from superintendents, and school authorities should not undertake to direct such work without taking counsel of experts in the field of education.

UNREASONED CONSERVATISM NOT DESIRABLE

While we urge conservatism, we deprecate unreasoned conservatism. Inasmuch as probably 90 per cent. of parents do not advise their children of the facts in an accurate, timely and whole-

some way, someone else ought to take the place of the parent, until a new generation of parents has been educated. We can hope for little from the parents of the next generation, unless the children (who are to be the future parents) are given the facts in the schools.

A FURTHER WORD OF CAUTION

It may be asked whether teachers may not wisely give occasional "talks" to the boys or to the girls. Again we must urge caution.

We know of no subject in which otherwise fairly intelligent people are more likely to mistake a little knowledge for adequate knowledge, or even ignorance for intelligence, than in this subject of sex education. It is true that an exact knowledge of the facts is of fundamental importance, and yet it is also true that there is no department of education in which pedagogy is more nearly of the essence of the subject. Furthermore, there are divergent ethical views, some of which lead to harmful consequences. Women teachers, as a rule, are incapable of dealing directly with boys. They are, as a rule, under misconception of a boy's sex life.

And yet it may be asked: Does it not become the duty of a teacher occasionally to try to meet the need of individual pupils? Yes; with qualifications. If a teacher suspects that a boy or girl needs special counsel, the teacher should get into touch with the parents. If the parents are helpless, then (with the parents' consent) the teacher may consult the family priest, minister or rabbi. If there is no help in these directions, efforts should be made by teacher with pupil—woman teacher for girls, man teacher for boys.

WHAT TEACHERS MAY WISELY DO

After these words of caution, the gist of which is that teachers ought not to undertake direct sex instruction or counsel, without special pedagogical training and proper authorization, we may put down briefly what teachers may wisely do.

1. *Moral Training.* Even teachers who give little or no direct sex instruction may take a part in something of vastly greater importance—the pupils' moral training. Every teacher should take to heart earnestly the fact that everything that helps to build up a pupil's character, does more than anything else that can be done

in school. This must come from teacher to pupil, not so much from formal and official acts, as by the daily influences of the teacher's own sympathy, honesty and spirit.

A thoroughly honest boy or a genuinely modest girl, ignorant of sex facts, is safer than a dishonest boy or a challenging girl, primed with the latest information. And with a true teacher, many a school lesson can itself, by its implications, be made a lesson in honesty and other fundamental virtues. Moreover, teachers can, by wise suggestion and example, do much to prevent the reading of worthless books. If teachers will read to their pupils from the best books and help to get such books into their pupils' hands, they will bring to bear an incalculable power for good.

2. *Physical Regimen.* Along with the pupil's moral education, in which every teacher has a share, we must consider the pupil's physical training. Every well-prepared teacher ought to be able to influence pupils in their general physical regimen. It is difficult here, as in the moral training, to overcome unhealthful home customs; yet much can be done. The teacher can everywhere do his part to see that all the pupils get play and exercise. He can guard against the increasing evils of physical exercise by proxy—by which we mean an excess of rooting on the side lines, while picked groups sometimes play harder than is good for them. Teachers can insist on ventilation, remembering that patent ventilating apparatus, no matter what the cost, was made for pupils, not pupils for the ventilating system. Teachers can give unexaggerated, wholesome, scientific information concerning tea, coffee, tobacco, and alcohol, excessive and irregular eating, unwholesome foods, injurious clothing, and late and irregular hours.

3. *Reaching Parents.* Since parents ought to instruct their children and do not know how, one thing to do is to get them together that they may be taught how. The success of such meetings depends largely upon the coöperation of principals and teachers with those who are undertaking this work in various communities. Whenever such meetings are being arranged, teachers ought to make special personal effort to procure the presence at the meetings of those parents whose children seem less carefully nurtured. In communities where the work is new, field secretaries and other officers of the local social hygiene societies will help teachers in arranging parents' meetings.

4. *Emergency Measures.* The fact that everywhere boys and girls, thirteen or fourteen years of age and older, are leaving our grammar and high schools and going into the world ignorant of the consequences of sexual experiences, constitutes an emergency that no right-minded person can contemplate without stress of heart and conscience. These boys and girls have not been taught by their parents nor have they received instruction in school. They have been taught only by each other and in evil ways.

Much harm may be averted and much good done by talks for older boys given by carefully selected men and talks for older girls by carefully selected women speakers. Further information with reference to the organization of meetings and the selection of speakers may be procured at any time by writing to the American Social Hygiene Association, 105 West 40th Street, New York.

OTHER PAMPHLETS IN THIS SERIES

SET A—FOR YOUNG MEN

2. A Reasonable Sex Life for Men.
7. Sexual Hygiene for Young Men.
8. Vigorous Manhood.
4. Smash the Line. (The case against the restricted district.)
14. List of Reliable Pamphlets.

SET B—FOR PUBLIC OFFICERS AND BUSINESS MEN

1. Public Health Measures in Relation to Venereal Diseases.
3. Venereal Diseases—A Sociologic Study.
4. Smash the Line.
5. The Need for Sex Education.
6. A State-Wide Program for Sex Education.
14. List of Reliable Pamphlets.

SET C—FOR BOYS

8. Vigorous Manhood. (Especially for boys 12 years of age and over.)
Note:—For boys under twelve, see pamphlet No. 9 (Set D). Portions of No. 8 also may *be read* to younger boys.
Boys fifteen years and over may be given pamphlet No. 2 (see Set A) at the discretion of the parent.
7. Sexual Hygiene for Young Men.
14. List of Reliable Pamphlets.

SET D—FOR PARENTS

9. When and How to Tell the Children.
3. Venereal Diseases—A Sociologic Study.
5. The Need for Sex Education.
14. List of Reliable Pamphlets.

SET E—FOR GIRLS AND YOUNG WOMEN

10. Womanhood. (Especially for girls 11 years of age and over.)
Note:—For girls under eleven, see pamphlet No. 9 (Set D). Portions of No. 10 also may *be read* to younger girls.
Girls fifteen and over may be given pamphlet No. 11 at the discretion of the parent.
11. Marriage and Motherhood.
14. List of Reliable Pamphlets.

SET F—FOR TEACHERS

12. The School Teacher and Sex Education.
13. Sex Education in the Home and High School.
3. Venereal Diseases—A Sociologic Study.
4. Smash the Line.
5. The Need of Sex Education.
14. List of Reliable Pamphlets.

The above will be sent without charge. Please send for only those pamphlets for which you have definite use. Address:

STATE DEPARTMENT OF HEALTH
AUGUSTA, MAINE

Health of Home and School.

LEAFLET No. 1.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Cold weather diseases.

Pneumonia, bronchitis, grip, and common colds, are called cold weather diseases. In the last ten years, in Maine, these diseases destroyed in the four months, January to April, 8,332 lives and in the four months of settled milder weather, from June to September, only 1,976. Aside from these diseases there are other cold weather troubles. Many people do not winter out well. In the spring they find themselves all run down, so they say, and many children, pale and puny, are sent from the city to the country or to our health resorts in early summer, where they make wonderful recoveries.

What does that mean?

Does it mean that the climate of our cold season is of itself less healthful than that of our warm season? Perhaps, but let us see.

Explorers in the Polar regions have found those parts remarkably free from these diseases, and, returning, suffer from attacks of grip, colds, or of the other so-called cold weather diseases soon after coming back to civilization.

An influential gentleman of this state, after roughing it in our Northern Maine woods, came down promptly with a dangerous attack of pneumonia after he had been exposed to the stuffy air of an ill-ventilated hotel bed room.

In the northern sanatoriums for consumptives, where patients live in the open air and sleep in the open air through the inclement winters, properly protected by clothing, of course, these cold weather diseases are much less prevalent than in the homes from which they come, and besides they recover from their tuberculous disease much more rapidly in winter than in summer.

Then what is the cause?

Or, we should ask, what are the causes, for there appears to be more than one cause. We shall simplify matters if we place them under two or three general classes:

1st. Artificial conditions of our own making.

The most influential of these is undoubtedly foul-air poisoning. We fail to ventilate or "air out" our living rooms, sleeping rooms, school rooms, churches, and places of business. The air is robbed of its health-giving part—its oxygen—by the process of breathing, and also by the flames of gas or oil lamps. Still worse, respiration and combustion both add to the air matter which is actually poisonous and harmful just in proportion to the absence of ventilation and the stuffy condition of the rooms.

Then again, our stoves and furnaces give off dangerous gases because we do not manage them intelligently.

Another fault is that we generally keep our rooms too warm. The

temperature of our living rooms and school rooms should never go above 70° F., and not much below 68°. But the English think that 60° or 65° is warm enough for their school rooms. That is because they do not coddle their children in houses that are overheated as we do.

And we certainly do overheat our houses awfully. A temperature of 75° to 80° is debilitating, as cold air is a tonic and such overheated air is too dry for healthfulness. Kitchen air is usually better than living room air because the steaming teakettle adds moisture.

Again, in close, unventilated rooms, the infection of the infectious diseases, if any happen to be around, becomes dangerously concentrated. And such infections are around much oftener than most of us think. For instance, many of us carry the germs of pneumonia or of grip in the secretions of our mouth, nose, or throat when we appear to be perfectly well, waiting to master us when imprudently we reduce our natural powers of resistance, or gathering in force and thriving in the foul air of our rooms until they overcome other persons.

2nd. Infection.

The preceding paragraph is suggestive of this. These cold weather diseases are infectious diseases. The germ of grip (influenza) and that which causes most cases of pneumonia are well-known and have been studied well. Colds are plainly infectious, but are probably caused by more than one kind of infectious agent. So, we may say that the real cause, the essential cause, of these winter diseases, is infection, and that all other causes are merely exciting or helping causes.

3rd. The effect of a draft or chilling.

This properly belongs in class 1st. While living under normal conditions, low temperatures have no intrinsic tendency to cause these diseases. But with the body debilitated by unfavorable conditions, and the way paved by them, a draft may be dangerous. It may serve as an exciting, or contributory cause.

How may we prevent these diseases?

By ventilating or airing out rooms frequently. Of course it costs a little more for fuel; but it is a kind of life insurance that pays. School rooms particularly should have a good system of ventilation. Sleep at all times with open windows—wide open preferably, protecting against direct draft and protecting the top of the head if the hair does not suffice.

Do not spit all around, well or sick. Destroy with fire, or otherwise, what is coughed up or spit out by persons who have these cold weather diseases. Coughing as a fine art, when sick with these diseases or with tuberculosis, requires a piece of cheese cloth or paper before the mouth to prevent spraying infection into the air. Then burn the pieces. Remember your good manners, and do not cough into anybody's face or toward others. Remember, too, that loud open mouthed coughing is out of style nowadays and a nuisance. Repress unnecessary coughing. It will be better for you and for others. Do not be unusually chummy because you have a cold or the grip. Keep away from other people as much as you can. Acts of carelessness in these respects may slay our best friends, or cause them needless suffering.

Read this Leaflet No. 1 carefully, and then keep it to be filed with others to follow.

Health of Home and School.

LEAFLET NO. 3.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Parasites and Parasitic Diseases of the Skin.

This leaflet is prepared for the purpose of helping parents promptly to get rid of some of the parasites which the most frequently trouble school children,—particularly lice and the mite that causes itch. Both are quickly and easily gotten rid of if the caretakers of the children are watchful, and prompt measures are taken if the affliction occurs.

Head lice.

Head lice may promptly be destroyed with common kerosene. Pour a little into a small dish. Moisten a small rag with it. After squeezing the rag somewhat, moisten the hair with the kerosened rag. Do this in the afternoon, after the return from school, or in the evening. Before morning, the oil will have evaporated so that but little or no odor will remain; or it can be removed with soap and water. If it is wished to disguise the odor of the kerosene, pour a small quantity of kerosene into a vial, and pour one-fourth as much oil of sassafras in with it, or a smaller quantity. Shake a few times until there is a complete mixture.

Or, dip a small, clean hair-brush into kerosene oil or oil of sassafras poured into a shallow dish. Then brush and moisten the hair with it. An ounce or two of oil of sassafras costs but little. After any of these applications are made to the head, be very careful not to let the children go near fire or lights. For the night, cover the head with a cap or wrap a cloth around the head. A cap can be improvised by knotting the corners of a handkerchief. This treatment should be repeated several times to ensure complete destruction of the lice and nits. Applied as recommended, the kerosene is not in any way injurious to the scalp or the hair.

Body lice.

They must be killed by scalding the underclothing and the bed sheets and the blankets, following up this practice several times at short intervals if necessary. Clothing may be rid of these insect parasites or of other kinds, by fumigation with sulphur.

The Itch.

This disease is caused by the itch mite, which causes the trouble by burrowing under the surface of the outer skin. The cure of the disease is merely a matter of killing this parasite. The trouble can be cured by using one of the following preparations:

Balsam of Peru,

Lard,—take equal parts.

In a shallow plate with a steel table knife rub them together thoroughly, forming an ointment. Vaseline may be used in place of lard, still better, lanolin.

Flowers of sulphur, one tablespoonful,

Balsam of Peru, two tablespoonfuls,

Lard or vaseline, eight tablespoonfuls.

Mix and make an ointment.

With the palm of the hand rub one of these ointments thoroughly into every part of the body from the neck downward, or, at least, all parts of the body which are affected. Sometimes the only affected parts are, at first, the hands and the arms to the elbows.

To make sure work, particularly in bad cases, two or three applications should be made within twenty-four or thirty-six hours.

Just before the first anointing, the whole body should have a thorough scrubbing with soap and hot water. Dry the body well before the ointment is rubbed in. The same kind of a bath should be given twelve hours or so after the last application. Thorough scrubbing and cleanliness will of itself go a long way toward curing.

To avoid reinfection, a child must have clean clothes, particularly underclothing, and a change of sheets and blankets. If but one change can be made, it should be made at the time of the last soap and water bath.

In the ordinary process of washing, the itch-mite on all clothing will be destroyed when an abundance of soap is used and the water is near the boiling point when the clothing is soaking.

The old-fashioned ointment of sulphur and lard will cure, but it is unpleasant, more irritating and less rapidly curative than balsam of Peru. Pure balsam of Peru is sometimes painted on, or a good mixture is with glycerin half and half. To make them mix, fill a bottle half full, heat by putting the bottle in pretty hot water, then shake.

Ringworm.

Another contagious skin disease which sometimes makes trouble in schools is ringworm. It presents the appearance of a round patch, covered with fine scales and with a slightly raised, reddish ring around it or part of it. The advice of the family physician should be obtained, and his treatment should be followed carefully. When ringworm gets into the hairy scalp, its cure is difficult and prolonged treatment may be required.

Contagious impetigo.

When on the exposed surfaces, particularly on the face, hands or wrists, a simple looking pimple or pustule, enlarges in size and the patch becomes covered by a brownish or yellowish crust, and other patches have apparently been caused by the conveyance of infection by the fingers or otherwise from the original patch, medical advice should be taken. Contagious impetigo is sometimes rapidly spread in the schools, but it can be promptly cured by medical treatment.

Health of Home and School

LEAFLET NO. 4.

Issued by the State Department of Health of Maine.

The Danger of Uncleanliness.

We have been told that cleanliness is next to godliness. There is no question that habits of neatness and cleanliness have a desirable influence upon moral character, but the aim of this leaflet is to point out some physical dangers which are invited by habits of untidiness.

Uncleanliness of Earth.

Mother earth is cleanly in her instincts. If we let her have a decent chance, all impurity committed to her is rapidly made clean; but if we overburden her by pouring an excess of filth out upon the surface of the soil, or into the soil on or about the spot which we call home, we do that at our peril. The dangers of so doing are of two kinds:

1st. In the soil which is overburdened with the filth of slops, sink drainage, or soakage from outhouses, harmful and dangerous gases are formed. They pollute the air which we must breathe, and worst of all, our houses, heated artificially, act as a huge suction pump drawing these gases into cellar and up into every room of the house. Absolute proof has been obtained by careful experiments that gases liberated in the basement permeate the rooms on all the floors of a house no matter how tightly they are shut off from the basement. The gases of decomposition thus formed in unclean ground and sucked into houses are undesirable additions to the air supply for our lungs. So, observe this golden rule: keep clean the ground around the home and around the schoolhouse.

2d. From these same sources of filth, our springs and wells are polluted. The distance through which polluted soakage finds its way to wells or springs varies very much with the character of the soil or rock. It sometimes finds its way into wells for almost incredibly long distances. So this again emphasizes the necessity of obeying strictly the rule: keep sources of filth from the near vicinity of the home well or the school well.

Unclean Water.

There is no reason for wholesale condemnation of the farmer's well or the village well. Properly constructed and cared for, its water is, in this State, almost invariably good and wholesome. But many well waters which are clear and sparkling are nevertheless dangerous. In cholera times in London, the people came from far and near to get the water of the Bond Street well because they thought it so good and pure. But the death from cholera of a multitude of people was traced to this well. So the infection of typhoid fever coming from neighboring sources of filth brings typhoid fever and the hearse and the undertaker to many homes in Maine every year.

Unclean Air.

Leave a room or house shut up closely for only a day or two and the air becomes stuffy. Air to remain pure and health-giving must be unconfined. Stagnant air is a menace to health. In occupied rooms, the occupants are continually giving off from lungs and skin and clothing harmful gases. Lamps, oil-stoves, gas-stoves and other heaters not well managed, are continually spoiling the air. Remembering how potent the outdoor air is in bringing back to health persons stricken with some dangerous diseases, we should take this fact as an emphatic hint that pure air is even more potent and more successful in preventing disease than it is in curing it. And it should nudge our memory to keep the air of our school-rooms and our homes and that about our homes as pure and fresh as possible.

Unclean Food.

The uncleanness of food endangers us in two ways as does the uncleanness of water: (a) by the harmfulness of the uncleanness itself, and (b) by the infectious matter which accompanies the filth or is transported to the food by it.

(a) The black sediment in the bottom of the bottle of dirty milk is unappetizing and is undoubtedly unwholesome, whether the milk is or is not sterilized by heating. The same may be said of the uncleanness, as mere dirt, which adheres to the products which come from the dirty baker, marketman or confectioner; but there is another question beside the one of filth itself. Filth and infection are twin demons of evil who often go hand in hand—the chief of those human ills which escaped when Pandora opened her fateful box.

(b) Fed to the babe unsterilized, the sediment in the unclean milk with its disease germs from the intestinal canal of the cow or elsewhere, may give rise to a dangerous attack of diarrheal disease. The 400 or more deaths from infantile diarrhoea every year in Maine emphasize the danger from filth-borne infection, and not so much the danger from the filth itself.

Again, through unscreened windows and doors, the summer fly on his way from dirty places dots our food with filth. This filth often leaves the germs of typhoid fever or other infectious diseases upon our food. Milk, boiled potato, and various other food stuffs are excellent culture grounds for the rapid multiplication of these disease germs. Thus, dirty food becomes infectious food, and there is good reason to believe that many of the cases of typhoid fever are thus caused by flies.

And again, a careless person caring for a patient with typhoid fever, diphtheria, or tuberculosis may carry on her fingers which have not been carefully washed the infection to the food which she prepares for herself and others. These are some of the ways in which unclean food may endanger or destroy us.

And still again, some persons, with no suspicion of it, are infection carriers and from their own persons their fingers may become contaminated with the infection of diphtheria, typhoid fever or other serious diseases. The careful washing of hands before meals and before handling food to be eaten by oneself or by others is not only an esthetic habit but sometimes guards against dangers.

It should be remembered always that the unclean earth beneath and around our homes, unclean water, unclean air, unclean food, unclean houses, and unclean persons are serious dangers to health and life, and that the training of ourselves into systematic habits of overcoming these evils is only a reasonable and necessary kind of insurance against the immense trouble, cost, and sorrow which we are so often called upon to pay for our neglect of these important matters.

So let us practise and preach the gospel of cleanliness,—personal cleanliness, domestic cleanliness, and municipal cleanliness.

Health of Home and School

LEAFLET NO. 5.

Issued by the State Department of Health of Maine.

The teeth and their care.

The state department of health issues this leaflet because this matter is so closely related to health and welfare.

Bad effects of diseased teeth.

The work which the teeth and mouth should do is a very important part of the work of fitting the food for the nourishment of the body. Aside from the desirability of reducing the food to minute particles, a sufficient prolongation of the act of chewing is necessary so that the finely ground food may very thoroughly be mixed with the saliva. One important function of the saliva is to change the starchy elements of the food into maltose, a kind of sugar. Unless it is so changed, it is not made available for the nourishment of the body. If diseased teeth are sore or tender, chewing will not be well done; if many are absent, it cannot be properly done, and indigestion and its attendant ills may result.

But that is not the whole story of the evil results of having bad teeth. Bacteria of dangerous disease-producing character are often found in the mouth. If they find there a lodgment, they multiply and produce their poisons. In the cavities of diseased teeth and about the tartar that adheres to the teeth they do find lodgment where they generate their poisons in abundance. They not only give the mouth a foul odor, but the poisons which these bacteria form are absorbed into the system from the mouth and from the stomach, and the bacteria themselves often penetrate farther into the tissues of the mouth, or are distributed through the circulation of the blood. The experience of physicians and dentists has forcibly focused their attention upon the fact that this gradual absorption of poisons from diseased teeth—this slow poisoning—is a frequent cause of ill health of serious character, and that in most cases there is a rapid improvement in health after the teeth and mouth are put into a more healthy condition.

Again, diseases of the teeth often extend to the gums and the jaws, and from those new sources there is sent out other purulent supplies with their accompanying bacteria. While this is only a partial enumeration of the ills of diseased teeth, it should suffice to emphasize the fact that a healthy mouth filled with sound teeth is well worth working for.

The growing of good sets of teeth.

This is in good part work for the mothers. Foundations for them are made or marred to some extent by the food which children receive. But, aside from the question of nourishment for the teeth, there is a question of their proper use and exercise. Exercise is just as necessary to the proper development and healthful maintenance of the teeth and the tissues into which they are set as of any other part of the body. But, in these days of breakfast foods and mush, there is a superabundance of soft foods and not enough requiring vigorous chewing, so the teeth, the jaws, and the mouth fail to develop properly and to maintain their normal condition, thus unsightly irregularities of the teeth result. There is reason to believe that the evil effect of insufficient chewing extends even to the anterior and posterior nasal passages and may have something to

do with the presence of troublesome adenoid growths which are often the cause of mental backwardness in children.

The temporary teeth.

It should not be thought that, because the temporary teeth are not to last for a life-time, it makes but little difference whether they are well cared for or not. If they are extracted or lost prematurely the adult jaws do not properly develop and the permanent teeth are likely to be crowded and irregular, thus being unsightly and subject to early decay.

The cause of the loss of the teeth.

Heredity and prenatal influences have something to do with the durability of the teeth, as does the food of the child during the formative period of the temporary and permanent sets. But the exciting cause is chemical action due to faulty care of the mouth and teeth. Particles of food remaining on or between the teeth ferment or decompose and form acids. These acids, acting pretty continuously in badly-cared-for mouths dissolve the structure of the teeth, and after a while the nerve pulp is exposed, and then follows the full train of symptoms, pain, ulceration, abscesses, loss of teeth, etc.

For the want of care, the teeth may also be lost by the accumulation of tartar and the resulting inflammation of the gums and absorption of the sockets of the teeth. The teeth may also be injured by the use of foods which contain too much acid, or by injurious tooth preparations.

How to save the teeth.

From early childhood the habit should be formed of giving the teeth regular care. With a tooth-brush and water, and preferably tooth-powder the teeth should be cleaned carefully and thoroughly. Use a tooth-pick, a soft, smooth one, only when it is necessary to remove particles which cannot otherwise be easily removed. Clean the teeth the last thing before bedtime, and again in the morning. Clean the mouth and teeth thoroughly after every meal if possible.

How to use the tooth-brush.

The brush with bristles of uneven length is best. Rinse the mouth first with water, then use the brush with water alone. A tooth-brush and water with no tooth-powder of any kind cannot wear well-formed teeth. Use a tooth-powder (described later) only once or twice a day. Brush all the surfaces of the teeth, especially the backs of them and the spaces between them. In brushing the teeth the gums should not be avoided; moderate friction helps to keep them healthy.

The kind of tooth-preparation to use.

There is reason to be shy of many on the market. Better ask your dentist, or be on the safe side and use nothing but some precipitated chalk or magnesia so finely powdered as to be entirely without grit. This may or may not be flavored with one or more of the aromatic oils, cinnamon, sassafras, peppermint or oil of wintergreen.

When to see the dentist.

Do not wait until filling or extraction is necessary. Arrange with him to examine your teeth at least twice a year and to advise you. It is better and cheaper for you to enlist his services in the prevention of trouble rather than to wait and give him the larger operations which will be harder for you and cost more.

Health of Home and School

LEAFLET NO. 6.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

What everybody should know about tuberculosis.

Leaflet No. 2 told about the terrible cost and waste and suffering caused by tuberculosis. This will teach briefly how to avoid and how to prevent tuberculosis.

Tuberculosis is an infectious disease.

It is not rapidly infectious, as are many of the communicable diseases; but there are about 5000 persons in our state who at any given time have tuberculosis, recognized or unrecognized. The infection from them, under circumstances which are favorable to it, may remain virulent months or years; and so many of us are exposed to infection under varying circumstances—for these reasons, 1000 or more of us in Maine every year die the death of consumptives.

Whence comes the infection ?

Most cases of human tuberculosis come from the infection from other human beings. The infection in a much smaller number, in children particularly, comes from the milk of tuberculous cows.

How the infection is spread.

Fix distinctly in mind that there are three principal ways in which human infection goes from the sick to other persons:

1. What is spit out by the person who has tuberculosis gets upon the floor, furniture, bedding, clothing, handkerchiefs, and, after it becomes dry, is pulverized, is whisked into the air by brooms or dusters or by human movements, and is then breathed down by other persons.

2. When the patient coughs, he sprays minute droplets into the air and the infection in these while still floating in the air is breathed down by other persons near him.

3. Spoons, forks, cups, pipes, pencils, or any other things which have been to the lips of a person with tuberculosis, are extremely dangerous to other persons and unless they have been scalded or otherwise sterilized most easily and quickly give the disease to others.

Predisposing causes.

The infection (bacillus) is the real cause, the indispensable cause. When a person receives infection into his system, a battle begins between the invading bacillus on the one hand and the defensive forces of the body on the other. If the dose is massive enough, it may bring down the strongest, the most resistant person, but almost always the issue of the battle, whether in recovery or death, will depend upon the outside influences which are brought to bear. Pure air, good nourishing food, and not too much exercise, help toward recovery.

But, on the other hand, impure, heated and dusty air, insufficient or unsuitable food, alcoholic drinks, overwork, and excesses of any kind, are some of the influences which help the infection to overcome its victims. These or anything which tends to "run down" the system may act as predisposing causes.

Tuberculosis is a preventable disease.

Everywhere—in nation, state, or city—where the people have engaged in earnest work against tuberculosis, the death-rate from that disease has been reduced. In Maine, the tuberculosis death-rate is now one-third less than it was in 1892. Taking into account the estimated increase in the population of our state in the interval, there are now 500 fewer deaths from tuberculosis than there would have been if the death-rate had not been diminished. This fact should encourage us to a more vigorous fight against this greatest enemy of our welfare.

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How may we further lower the death-rate?

The following may be put down as the most important things to do:

1. The further extension of the educative work is the first thing. The teaching that tuberculosis is an infectious disease, but that it may and should be controlled and prevented should be presented to every family in the land until this is grasped as a truth to be acted upon.

2. Every person who has tuberculosis should at all times strictly carry out the rules laid down by the state board of health to guard against giving the infection to others. He should do it voluntarily or be compelled to do it. The careless cougher or the careless spitter endangers himself and everybody else near him. On the other hand, the intelligently careful one need not be shunned, but should receive the help and sympathy which he deserves.

3. It should be felt to be everybody's interest to insist upon compliance with the provisions of the new and good law of the State of Maine against tuberculosis.

4. Sleeping with open windows at all seasons of the year should become a general custom.

Some special rules.

For the prevention of tuberculosis the following rules should be remembered and observed:

1. The person who coughs should, when practicable, and when near other persons, hold before his mouth a piece of paper or cloth to be burned afterwards.

2. For the reception of the sputum, paper cups, which with their contents, may be burned, are the best. Local boards may furnish them to needy persons at the expense of the town.

3. Spitting on floors of living-rooms, factories, public buildings and cars is too dangerous to be allowed. The sputum of many persons unsuspected of having tuberculosis is dangerous. There should be a strict enforcement of the penalty of the law for such practices.

4. Public drinking cups in schools, railway trains and elsewhere, are dangerous and should be avoided.

5. The eating and drinking utensils used by persons with tuberculosis or with cough should not be used by other persons until they have been washed by themselves and scalded with boiling water.

6. A tuberculous patient should keep his hands scrupulously clean. Infected fingers carry infection.

7. Sputum should not be exposed to flies. The first flight therefrom may be to food products or food preparations.

8. Children associating with tuberculous persons are especially endangered, particularly infants in arms or upon the floor. Their fingers wipe up infection from various sources and carry it to their mouths.

9. Tuberculosis is a house disease. Indoors, the infection may remain virulent a long time. Outdoors, the direct sunshine is pretty rapidly destructive of the bacillus. Thorough disinfection of infected rooms and things as the law provides should be the invariable rule.

Tuberculosis is a curable disease.

In the earliest stage, nearly all cases of tuberculosis might be cured. But there are four great mistakes which are every year drawing hundreds of infected persons into the maelstrom from which there is no rescue: (a) Waiting for the symptoms of "consumption" (the advanced stage) before suspecting tuberculosis is present. (b) Failure to seek competent medical advice and treatment early. (c) Failure of the physician frankly to say that tuberculosis is present or suspected. The person who knows early and accepts the truth is he who has the best chance for speedy recovery. (d) Trusting to patent medicines. And these four resolve themselves into one fatal error, loss of time.

The symptoms which should lead to a suspicion of tuberculosis, particularly if there has been exposure to tuberculous infection, are: a "run down" feeling; loss of weight; cough lasting a month or more, even if slight, or noticeable only mornings; increase of temperature afternoons; spitting of blood or streaks of blood in sputum, night sweats.

Every family in which there is a case of tuberculosis, or in which it is suspected, should have Circular No. 54.

Health of Home and School.

LEAFLET No. 7.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

The Eyes and Their Care.

No words need be wasted to convince anybody what a calamity blindness is; but there is a long list of misfortunes and handicaps which may be the result of eye-strain due to defective conditions of the eyes, which may be remedied; or to the use of the eyes under wrong conditions: Severe headaches frequently recurring and extending over many years; epilepsy; chorea, neuralgia, dizziness and various other nervous troubles; mental backwardness of children; lateral curvature of the spine, due to faulty positions which improper lighting or defective eyes cause pupils to assume; etc.

Faulty Conditions of the Eyes.

The diseased or abnormal conditions of the eyes which are found in the schools most frequently are:

Near sight (myopia). This is due to a bulging out of the posterior part of the globe of the eye. With improper use, this trouble is likely to be progressive and this giving-way of the tissues of the eye at this point may give rise to various dangerous changes in the eye which may seriously affect its usefulness or may even cause blindness. The near-sighted eye is always a diseased eye.

Far sight (hypermetropia) is due to a condition just the reverse of that in myopia. The antero-posterior diameter of the eye is too short. In other words the eye is too flattened.

In some eyes there is an irregularity of the curvature of their refracting surfaces. For instance, the curvature in the perpendicular plane may be greater than that in the horizontal plane. This is astigmatism.

Eyes in which these troubles occur are always, in reading or other work, under a disadvantage and a strain when these conditions are not corrected with suitable glasses. For instance, with astigmatism there are two points on each retina at which the rays of light come to an imperfect focus, and the unaided eye is vainly trying to merge them into one.

Aside from these faulty refractive conditions there are sometimes abnormal conditions of the muscles inside or outside the eye, whose use is to focus the eye and to regulate its visual axis. This unbalanced condition of the muscles, results in convergence or divergence of the eyes, or one may rise above the other.

Schoolroom tests may detect many of these abnormal conditions of the eye, and if found or suspected the pupils should be examined by a physician who is a trained eye specialist and who can judge of the interrelation between the eyes and diseases or disturbances in other parts of the body, as well as being able merely to fit glasses.

Effect of School Work Upon the Eyes.

School work, under unfavorable conditions, has a strong tendency to bring on diseased conditions of the eyes. The unfavorable conditions may be due to faults of the eyes which should be corrected by glasses, or to

wrong methods of lighting schoolrooms. Referring to one disease of the eye only, it is found that the percentage of pupils troubled with myopia increases with the number of years in school; and the grade of the myopia also increases with the grade of the school. That is, it increases from class to class. For instance, in France there was very little myopia in the lowest classes, 17 per cent. in the intermediate, and 46 per cent. in the most advanced classes. In some of the colleges it was much worse. The same serious condition has been found in the schools in other European countries and in this country.

It is found also that defective conditions of the eyes come on more rapidly in schoolrooms which are improperly lighted.

Right and Wrong Schoolroom Conditions.

In the schoolroom the eye is the organ which is the most severely taxed. The eye should therefore have the best possible conditions arranged for its work.

The principal light in the schoolroom should come from the pupils' left. The very best lighting is when the light all comes from the left, provided the schoolhouse can be so placed that the light comes from desirable points of the compass. The next best is with the principal light from the left with a smaller glass area at the rear.

Light from the right of the pupil is bad for the reason that the pupil's hand, in writing, throws a shadow upon his work. Light from right and left gives troublesome cross-lights which are trying to the eyes. Light in front of the pupils is absolutely bad and should never be tolerated. The windows at the left which supply the principal light should be massed with the narrowest possible spaces between them.

Direct sunshine should not fall upon or near the pupils' desks, nor come into the schoolroom during school hours. The best light comes from the east, north-east, north, or north-west. Light from the southern windows should be moderated carefully by curtains during school hours when the sun is shining.

To ensure sufficient light, the glass surface of the windows should equal one-fifth, and still better one-fourth, that of the floor surface. (Figure it out for your own schoolroom.)

Blackboards between windows or near them are bad for the eyes. Eyes are strained when the student is forced into improper attitudes by desks and seats not properly fitted to him.

Various Suggestions.

If the eyes of an infant, four weeks old or less, become inflamed, report the case at once to a physician. There is a stiff penalty for not doing so, and well there may be, for one-third of all cases of blindness are caused by the want of prompt action in these infantile cases.

A person with inflamed eyes should have wash bowls and towels of his own, and otherwise should be extremely careful not to let other persons catch his trouble. Many inflammations of the eyes, particularly purulent inflammations, are very contagious. Never poultice an eye. There is extreme danger in doing so.

Pain in or over the eye is a danger signal which should receive prompt attention. In persons past middle life, pain and perhaps dimness of vision may mean a disease which sometimes destroys the sight very quickly, and always pretty surely if not relieved.

Gradual dimness of vision, usually without pain, may presage Bright's disease, cataract, or other serious local or general disease.

Health of Home and School.

LEAFLET NO. 8.

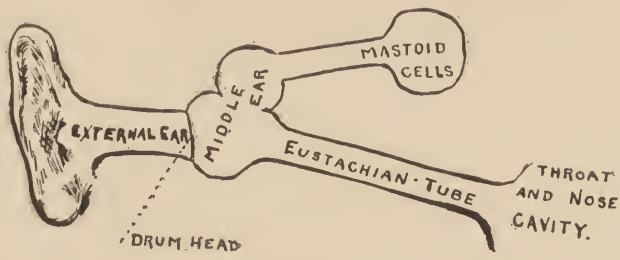
ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Troublesome and Dangerous Ear Diseases.

People generally have but little idea of the unfortunate results and of the dangers which very often follow earache, inflammation of the ear, and "runnings" from the ear when neglected. That is why this leaflet is prepared.

Structure of the Ear.

That part of the ear which stands out from the side of the head and collects the sound waves is a useful part, but not the essential part of the organ of hearing. This diagram does not pretend to show correctly the shape of the internal structures of the ear, but it does, better than a correct picture would, give an idea of the relation of the various parts to one another and to the throat and nose. It does not show at all those parts which form the internal ear.



The outer passage of the ear, about an inch inward, is closed by a membrane stretched tightly like a drumhead. It is, indeed, called the drumhead of the ear. The cavity beyond that is called the drum of the ear or the "middle ear." It has no outward communication except with the upper cavity of the throat and nose through the Eustachian tube. Beyond the drum is the third cavity, called the "internal ear." The nerve of hearing is distributed within this.

Troubles of the Outer Ear.

Insects may crawl into the ear. When they do so their fluttering or scratching against the drumhead of the ear causes such a noise and so unpleasant a sensation as wildly to excite the child. Warm water or sweet oil poured into the ear drowns the insect and floats it out.

Foreign bodies lodged in the ear are not nearly so dangerous as unskillful efforts at their removal, which often cause rupture of the drumhead or partial or complete destruction of hearing in that ear. Their removal is work for the physician.

Boils sometimes form in the skin which dips down into the outer ear passage. They are often very painful. They and other troubles of the external ear are sometimes caused by the use of the ear scoop, toothpicks, hair-pins, or other things used in the outer passage of the ear. With such things the outer passage of the ear may be infected or the drumhead of the ear may easily be injured or even ruptured. Never use anything in your ear or scratch it with anything but your elbow, is the good advice which the old doctor gave.

Diseases of the Middle Ear, (the Drum of the Ear).

Diseases of the middle ear usually result from unhealthy conditions of the throat or nose. Adenoids or enlarged tonsils may be the cause, or a chronic catarrhal process which may extend to the Eustachian tube. Closure of that tube removes the air pressure from the inner surface of the drum-head, while the pressure from the outside continuing, bulges the drumhead inward and hardness of hearing results.

Acute Inflammations.

But the main purpose of this leaflet is to tell about some acute troubles which endanger life as well as hearing.

The inflammation of the nose and throat caused by a severe cold or by an attack of the grip may extend upward through the Eustachian tube to the middle ear. When that occurs the inflammation of the lining of the tube often closes the passage through it so that the purulent or other fluids forming in the middle ear cannot escape into the throat. The pressure of these pent-up secretions often breaks through the drumhead and the fluids are discharged externally. These "risings in the head" or "abscesses in the head," as the trouble is sometimes called, should be regarded as a serious matter. The severe earache may cease as soon as the rupture and discharge takes place, but the danger continues. But it should be remembered that infants may have serious inflammations of the middle ear without indicating the fact by crying. Right back of the ear is a bony prominence, the "mastoid process." It contains cavities or cells which are connected with the middle ear; and the inflammation often extends from the middle cavity of the ear to those cells. And these cells are close to the base of the brain. The great danger to life is the extension of the inflammation to the brain or its membranes.

When the inflammation of the mastoid cells occurs, a serious surgical operation is often required to save life; but in the greater number, this operation is not done and life is lost by the extension of the inflammation to the coverings of the brain, or by abscess of the brain, or by disease caused by the extension of purulent or infectious matter to other parts. This happens so frequently because parents do not understand how great the danger is.

And just as long as a discharge from the ear goes on, this serious danger hangs over the child; and the discharge is more and more destroying the hearing.

Greatest Cause of These Troubles.

A common cold may start this chain of disastrous results; but the great sources of it are the infectious diseases, particularly measles, scarlet fever, diphtheria and grip; though the infection which lights up these dangerous ear troubles may be that of whooping cough, mumps, pneumonia, erysipelas, tuberculosis, or smallpox.

During an attack of any of these diseases, particularly of any of the four first mentioned, great care should be taken to prevent the extension of the infection to the middle ear.

The infection may be blown directly in through the Eustachian tube by blowing the nose. Hence the urgent need of cautioning the patient to abstain from acts which may cause so much trouble.

The inflammation is not so likely to extend to the ear if the throat and nostrils, in infectious attacks, are kept clean with mildly antiseptic washes; but if applied with the nasal douche, there is extreme danger of the fluids penetrating to the cavity of the middle ear, thus carrying infection; and this danger is not wholly absent in using some of the hand sprayers. This treatment should be under the supervision of the attending physician.

Please save these leaflets so you may have a full set of them for reference. Many more are to be printed.

Health of Home and School.

LEAFLET NO. 9.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Cuts and Other Wounds.

A surgeon who was in the war of the rebellion, comparing the treatment of wounds at that time with the treatment which wounds received in the Spanish-American War about forty years later, remarks that, in that earlier war, antiseptics were not used; no attempt was made to sterilize the part to be operated on; or the surgeon's hands, or his instruments; in the hospitals the nurse went from patient to patient with the same pan, sponge, and dressing instruments unsterilized.

In the Spanish-American War every man carried a little package the "first aid," containing gauze and bandages and other necessities for the immediate dressing of wounds, and which could be applied at once by the man himself or by his comrade. In the work of the surgeons there was as rigid an adherence to the rules of cleanliness as possible.

The results are, while in the Civil War there was a death-rate of twenty-five per cent. from gun shot wounds, in the Spanish-American War the death rate from the same kind of injuries was only six per cent.

First Aid in the Home.

Twenty-five per cent. of the wounded dying in the Civil War, and not one-quarter as many in our later war should set us to thinking. In Leaflet No. 4 you have been told something about the danger of uncleanness in and around the home. This leaflet is to show the danger of continuing in the old unclean ways of taking care of cuts and other wounds, and to tell, how, in the home or at school, to apply the "first aid" dressing.

Sources of Danger.

If cuts and other ordinary wounds are clean and are kept clean (surgically clean), they will heal quickly and there will be only slight inflammation, no "festerings," or formation of pus, or blood poisoning, or other serious results; but if their treatment is not in accordance with the laws of strict cleanliness, dangerous results may follow slight cuts and scratches, the prick of a thorn or a splinter, or the bite of an animal.

The skin protects the tissues beneath it against injuries and excludes germs which, when they have a chance, cause inflammation, suppuration, blood poisoning, lockjaw, erysipelas and gangrene.

The germs which produce these dangerous conditions or diseases come from unclean things causing the wounds; from the dirty condition of the skin through which the wounds are made; from unclean hands which handle or dress the wounds; from water which has not been sterilized by boiling before it is used for washing wounds, or water in unclean basins, or applied with unclean sponges or cloths; from dirty substances which are applied to wounds; and from unclean (unsterilized) cloths or compresses or bandages applied to wounds in dressing them.

Of unclean things, the teeth and claws of cats and dogs when they cause wounds always carry through the skin possibilities of serious danger; old nails or sharp stones in or upon the earth carry with their dirt the danger of lockjaw because the germ of that awful disease lives in the soil, particularly unclean soil.

Of unclean skins, that of the most cleanly person sometimes harbors in its scales or meshes the dangerous germs of suppuration; and the skin of the boy celebrating the Fourth often supplies the germs of lockjaw which the exploding cap of the toy pistol drives through the skin.

Of unclean substances applied to wounds, puff balls to stop bleeding, or any other materials which have been exposed to dust and dirt are dangerous.

The Domestic First Aid Package.

In a clean wide-mouthed bottle with a clean stopper, keep a half pound of boric acid for use on man or beast. It will not cost much.

Sealed up in clean paper wrappers keep a supply of compresses of different sizes made of surgical gauze all ready to use at short notice. The surgical gauze can be had from the drug stores, or the compresses can be made of cheese-cloth or old soft linen or cotton which has been washed and then boiled, and then, on clean plates, has been dried in an oven and left there exposed for several hours to as great a degree of heat as may be without scorching or burning it. It would be still safer if these compresses and the sterilized cheese-cloth are wrapped inside of several thicknesses of sterilized cheese-cloth before the paper wrappers are put on.

Get from the druggist also an assortment of sterilized bandages from one to two inches wide and of different lengths. They come in air-tight packages and should never be opened until they are to be used.

Get from the druggist also four ounces of creolin. Have it labeled "Poison."

Keep these things all closed up tightly away from dust in a special clean box where they may quickly be found when needed.

How to Use Them.

If in the home or school an accident occurs and the skin is cut or torn, the first consideration is the question of cleanliness of the wound and its surroundings. If it is a clean cut made with a clean knife or other instrument, simply apply the dressing as soon as bleeding has ceased. Unnecessary and unskilful washing or handling may infect a wound which at first is all right for favorable healing.

But if the injured part were dirty, or cut or torn by anything which would be likely to carry dirt,—the kick of a horse, or cuts from nails or stones on the foot of the bare footed boy, for instance,—one teaspoonful of creolin should be poured into one quart of water in a clean bowl or basin. We will call this the "creolin wash."

First, the person attending to the dressing of the wound should wash his hands, his fingers particularly, very thoroughly with soap and water. Then soak the fingers three or four minutes in a little of the creolin wash. Do this so the fingers may not carry infection to the wound.

Next, wash out the wound very carefully with the creolin wash and wash also the surrounding skin. Do the washing with a piece of clean cotton cloth or cloth made safe by pouring boiling water over it, or by soaking in the creolin wash. If creolin is not at hand use water which has been boiled and then cooled.

Then, after the parts have dried, apply the dressing. In applying it, take a piece of the sterilized cheese-cloth or surgical gauze large enough so that, folded about eight thicknesses, it will cover the wound and extend beyond it one or two inches. Sprinkle the wound plentifully with the boric acid. Sprinkle with the boric acid that side of the compress which is to be applied to the wound. Use from a quarter to a level teaspoonful or more. Apply the compress. Apply evenly and smoothly a bandage to hold the compress in place. Leave the dressing in place until the doctor comes, or, if medical aid cannot be had, leave it undisturbed for two or three days if the wound is apparently doing well, and if there is no soakage of the compress and bandage indicating suppuration.

In redressing, simply apply more boric acid with a clean compress and bandage if the wound is free from suppuration and is apparently healing favorably. If not, cleanse with the creolin wash, proceeding as with the first dressing.

For domestic use the dry dressing is best. Do not cover wounds with "sticking plaster," collodion, "new skin," or any such stuff. They are dangerous. Strips of adhesive plaster may, however, be used to hold other dressings in place and are often very useful for that purpose.

Health of Home and School.

LEAFLET NO. 10.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Simple Bandaging.

This leaflet will speak of only two forms of bandage, the roller bandage and the triangular bandage. The roller bandage in skilled hands, may smoothly be applied to almost any part of the body. Leaflet No. 9 has advised that a collection of bandages from one to two inches in width be kept prepared in every home.

To apply a roller bandage as is shown in Fig. 1, take a turn or two around the wrist, then over the back of the hand, then around the palm, then the back of the hand, the wrist again, thus proceeding in carrying the folds around in a figure of 8 style until the hand and fingers are sufficiently and smoothly covered. When that is done, carry the folds from the wrist upward over the arm. On account of the increasing size of the arm it will be necessary to make reverses as is shown in the cut, thus making it possible to apply the bandage everywhere with smooth and even pressure.



FIG. 1.

In applying the roller bandage to many parts of the body, as the wrist and hand, the ankle and foot, the elbow, and the knee, it can be put on smoothly by carrying the turns around in the form of a figure of 8

The Triangular Bandage.

For many uses the triangular bandage is simpler and is often to be preferred for domestic use. To make it, take a square piece of cloth of sufficient size. Cut it in two from one corner to the opposite corner as is shown in Fig. 2. This makes two triangular bandages. The right angle of the triangle we will call the point and the two acute angles the ends of the bandage.

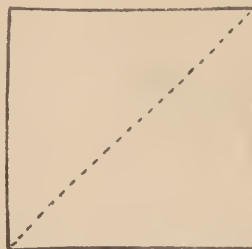


FIG. 2.

A Sling.

The triangular bandage can be used as a sling for an injured arm, the knot being tied back of the neck, and the broader part of the bandage supporting the arm.

The Scalp Bandage.

Place the base of the triangle across the forehead and bring the "point" over the head to the back of the neck. Cross the bandage at the back of the head and then bring the two ends around and tie in front. The point is then drawn up so as to fit the scalp closely and is then pinned with a safety pin.

The Hand Bandage.

In case of a cut or other injury to the hand the triangular bandage is to be folded to the required width. Bring the middle of the bandage across the palm of the hand and carry the ends around across the back of the hand and then around across the front of the wrist to be tied at the back of the wrist as is shown in Fig. 3.



FIG. 3.

The Foot Bandage.

Place the base of the triangle around the back of the heel. Pull the point of the bandage out in front of the toes, thence over the top of the foot. The ends are crossed in front of the ankle, then under the arch of the foot, and finally brought up and tied over the instep. See Fig. 4. But a well-applied roller bandage is better.



FIG. 4.

The Ear Bandage.

To apply a triangular bandage to the ear fold it so that it will be of sufficient width. Bringing the center of the bandage around the side of the head to which the dressing is not to be applied, cross it at the ear over which it is wished to apply the compress then bring one end over the top of the head, the other beneath the chin and tie at that point where the center of the bandage was applied. See Figures 5 and 6.



FIG. 5.



FIG. 6.



FIG. 7.

The Bandage for the Eye.

Place nearly the middle of the bandage over the injured eye; then carry the ends around the head, cross them at the opposite side and bring them forward again so as to tie the two ends a little to one side of the injured eye. See Fig. 7.

The illustrations in this leaflet, all but Fig. 1, are from that excellent little book, *Emergencies*; Gulick Hygiene Series, Ginn and Company, Publishers. Through the courtesy of the author and the publishers we are permitted to use the cuts.

Health of Home and School.

LEAFLET NO. 11.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE

How to Stop Bleeding.

Every person should have an idea of just what to do, and how to do it quickly, if required, to stop bleeding which may result from various kinds of cuts and other injuries.

Study this leaflet carefully and remember what it teaches. It may help you to save a life sometime, perhaps your own.

Bleeding may come from an artery which has been cut or otherwise severed. If from an artery, the blood will be of a bright red color, and if the cut end of the artery is uncovered, it will flow in jets and spurts, corresponding to the beats of the heart.

Or the bleeding may come from the veins, when it will be of a dark red color and its flow will be continuous and steady.

In other injuries the bleeding comes largely from that finest network of blood vessels through which the blood finds its way from the smallest twigs of the arteries into the minutest veins which converge to form the larger veins, carrying the blood back to the heart.

Bleeding from an Artery.

If a very small artery is cut the bleeding may be stopped by applying a compress and, by means of a bandage, applying pressure to the injured parts, as will be described farther on.

If a larger artery is opened a little bit of knowledge of anatomy—where the main blood vessels run, may be required to enable a person to stop the bleeding. Sometimes deep pressure with the fingers or with the thumb placed just above the cut, that is on that side of the cut which is nearest to the heart, will control the bleeding.

But, if the cut artery is of considerable size, the only sure way of controlling the bleeding is to find some point along the course of the artery where it can be pressed between the thumb and an underlying bone.



FIG. 1

Fig. 1 shows, by the dotted line, the general course of the main artery of the arm and the point at which pressure may be made so that the artery may be compressed between the thumb and the bone of the upper arm.

There is only one point at which the flow of blood through all of the arteries of the upper limb may be controlled by pressure, that is just where, rising upward from the chest, the artery curves over the edge of the first rib. That point is just behind the collar bone, as is shown in the upper part of the cut where the thumb is exerting pressure at the proper point. In spare persons particularly it is easy, with the finger at this point, to feel the beating of the artery. Each pupil should learn it for himself so as to be ready quickly, in a case of emergency, to render help of this kind.

At the point in Fig. 2 where the hands grasp the thigh and the two thumbs make pressure upon the main artery of the leg, is one point where the circulation through the arteries of the lower limb can be controlled.

There is another point where this large artery can be more effectively compressed. It is midway between the forward point of the hip and that central point where the pelvic bones come together in front. At this point the artery rises out of the pelvic cavity and passes over what may be termed the edge of the bony basin. Here the artery may be compressed directly between the thumb and the underlying bone.

Sometimes, when a large artery is cut, the life of the patient will depend upon the coolness of comrades or bystanders and the knowledge which they have in regard to where pressure should be applied. And in such cases it may be necessary to maintain the pressure without cessation until the doctor arrives. If fingers or thumbs tire, the injured person can himself sometimes aid for a little while in maintaining pressure.

In many locations in the arm or leg the bleeding may be stopped by applying a small hard pad or compress over the artery above the cut and then tying loosely around the limb a handkerchief, so that a stick may be inserted and with that the bandage can be twisted until the pad makes hard pressure upon the artery.

In other cases where the severed artery is small the pad may be placed directly over the wound and a roller bandage applied as is taught in Leaflet No. 10, thus exerting pressure directly over the lips of the wound.

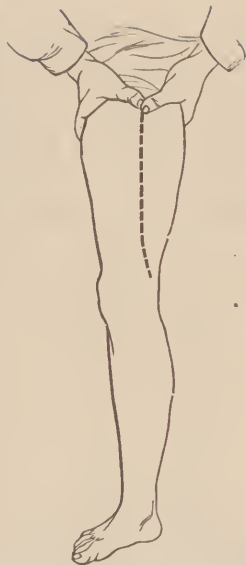


FIG. 2

Bleeding from Veins.

When the bleeding comes from veins there is usually not so much difficulty in checking it. Generally the best way to do, until the doctor arrives, is to apply a compress or pad as is described in Leaflet No. 10, and by means of a roller bandage bring pressure upon the surface from which the blood is flowing.

When the bleeding is slight all that is required to check it is the exposure of the cut surface to the air.

Bleeding from the Lungs.

Bleeding from the lungs may be slight and consist simply in the streaking of the matter which is coughed up, or it may be copious and alarming. In the treatment, quietude of mind and body should be the rule. The patient may be reassured by telling him the truth that generally there is but little immediate danger.

The affected person should recline quietly with the chest somewhat raised. He should abstain from talking. He should not, under any consideration, be hurried or carried to the doctor's office, but if medical aid is available it should come to him.

Bleeding which comes from the air passages almost always indicates the presence or the beginning of tuberculosis of the lungs and its occurrence is often a fortunate event by calling the attention of the patient and the attending physician to the probability that a tuberculous infection is present.

Nosebleed.

Bleeding from the nose usually ceases after but little delay; but if it is profuse or threatens to continue long, treatment should be begun.

The head should be held as high as possible. Sometimes pinching the nostrils with the thumb and finger suffices, exerting pressure for some time until clots form at the point of bleeding. The clots should not be blown out or otherwise disturbed, uncomfortable though they may feel.

Another suggestion often made is to raise the arm on that side from which the bleeding comes. Other expedients are the hot bath for the feet and legs, and the application of very cold water to the nose and lower part of the forehead.

Keep this leaflet for future use.

Health of Home and School.

LEAFLET NO. 12.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Infection Carriers.

The whole world of medical and of public health research is moving swiftly. It is rapidly discovering truths which are of the greatest value to us all about the causes of diseases, their prevention, and their cure.

One thing which has been brought out more clearly of late years is, that it sometimes happens that a person who appears to be well or only slightly sick, may carry the infection of dangerous diseases in his system and thus be a danger to other persons.

There are several ways in which this may happen:

1st. The person may have had, in its usual form, the disease which the particular kind of infection usually causes, and he may have recovered fully, but the infection (the germs of that disease) still continue to develop and multiply in his system. He is therefore still a source of danger to other persons.

2nd. A person has received into his system the infection. It multiplies and is given off freely, thus endangering other persons; but he himself remains in full health. He has no symptoms whatever.

3rd. A person receives the infection; that is, he becomes infected. But he has only slight symptoms and the disease is in so mild and irregular a form that there is difficulty in saying what the trouble is.

Thus the same kinds of infection received into the systems of different persons may produce symptoms of varying degrees of severity, or there may be a complete absence of symptoms.

So, in preventing the spread of infectious diseases, there is this newly-found danger to keep in mind. Aside from guarding against the spread of infection from persons sick with the plain forms of these diseases, and from the things and houses and places which they have infected, we must remember the possibility of these infection carriers. And that is a very serious danger. That accounts for many cases of infectious diseases which continue to spring up long after the health officer thinks that, according to the rules of the game, they should stop.

And now a few words about "infection carriers" for the several infectious diseases:

Diphtheria.

The germ of diphtheria (the infection, the diphtheria bacillus), finding its way into the throat or nose, multiplies, as the seed does which falls upon fertile soil with warmth and moisture to its liking. The germ may simply multiply and not make the person sick. It does not make him sick because he is *immune*, that is, he cannot take the disease even though he receives the infection. But he is an infection carrier. He is dangerous to other persons, though the infection is not dangerous to him.

Again, the diphtheria infection may grow and multiply and cause a slight sore throat, or quite a severe inflammation of the throat, which does not look like diphtheria. In these cases, the person with the sore throat is a dangerous infection carrier.

The third kind of diphtheria infection carrier is the person who has had diphtheria in its plain form and has recovered. He may appear to be entirely well, but the infection still lingers in his throat or in the cavities

of his nose. While it does, he, too, is a dangerous infection carrier of this terrible disease.

There are, thus, three kinds of diphtheria infection carriers. Persons may also, of course, carry the infection in their clothing or in other infected things.

It sometimes happens that cases of diphtheria keep springing up in a school or a community after every required precaution has apparently been observed. Such continued outbreaks are most likely due to an unrecognized mild case of diphtheria or a person who is a walking manufactory of diphtheria infection.

And how shall the person who is thus probably innocently spreading sickness and death be found out? It can only be done by sending to the laboratory samples from the throat on small swabs of sterilized cotton which have been applied to the throat and then enclosed in glass tubes. But this is work for the doctors and the health officers.

And only in the same way—by the help of the laboratory—can it be known, in many cases of throat disease, whether they are diphtheria or not; and in no other way can it be known how long the infection remains in the throat if it has been diphtheria.

It is much better for the public safety to have the period of quarantine depend upon the length of time the diphtheria infection remains in the throat and nostrils than to have a fixed period of quarantine, and it is better for the affected families generally, for, in all except a few exceptional cases, families may be released from quarantine earlier than under the other rule. The laboratory of the State board of health is continually doing work of this kind for local boards of health.

Typhoid Fever.

There are also typhoid infection carriers: persons who have the disease in a very mild form, who perhaps walk around meanwhile all the time spreading infection, and persons who, some weeks or months, or even years ago, had typhoid fever and continue, in their kidneys or intestinal canal, or gall bladder, to offer a favorable field of growth for the infection (the typhoid bacillus). The discharges from such a person endanger other persons in his household and in his neighborhood.

Scarlet Fever.

In scarlet fever, there are also infection carriers. There are cases of sore throat, sometimes very mild and sometimes somewhat severe, with no rash whatever, and still these attacks may be caused by the infection of scarlet fever. They are, in fact, cases of scarlet fever. These cases may spread infection which produces typical and malignant scarlet fever.

After the recovery from scarlet fever is apparently complete, a discharge from the nose or ear, or a continued sore throat may spread infection.

Cholera.

Just now, as this leaflet is in preparation, that dread disease, Asiatic cholera, has come to the Port of New York. Just a few cases have developed from infection carriers. Just as persons who have not had a plain attack of typhoid fever, or who have recovered from an attack, may spread typhoid fever, so may a person who has not had cholera or who has recovered from it continue to pass infection and spread the disease.

Tuberculosis.

A tuberculous patient is not a source of danger unless he is coughing up or otherwise discharging the infection of this disease. But there are many persons with a chronic cough who are spreading tuberculous infection without knowing that they have tuberculosis.

Keep these leaflets all together. Try to have a full set.

Health of Home and School.

LEAFLET NO. 13.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

To Save Life After Drowning, Electric Shock, and Other Accidents.

In drowning there are two things to be done, and to be done quickly: Empty the lungs of water, and restore breathing. Work quick and fast, and if need be, work long. One minute lost or saved may make the difference of a life lost or saved.

Rule 1. Lose no time in recovering the body from the water. Always try to save life; for while ten minutes is usually the limit, persons have been saved after being under water for 30 or 40 minutes. Do not lose time in taking the body to a place of shelter. Begin the life saving work at once.

Rule 2. Promptly, and without a moment's delay turn the individual upon his stomach on the shore or other land. Place the face turned to one side so that the nose and mouth are clear and unobstructed.



FIG. No. 1.

Rule 3. Kneel by the side of, or astride the hips of the victim, face toward his head. Place both outspread hands upon the small of the back, just over the shortest ribs, and with the arms straight pitch the weight of your body and shoulders forward, the pressure being downward and slightly forward. Thus exert pressure three seconds. [See Fig. 1]

Rule 4. Swing backward, suddenly releasing pressure, but keeping the hands in place. Rest two seconds. [See Fig. 2.]

Rule 5. Repeat pressure three seconds, and release two seconds, so that the artificial emptying of the lungs, and refilling of them may be at the rate of twelve times a minute.

This method, called the prone pressure method or the Schaefer method of resuscitation, at once expels water and restores the mechanical movements which are present in the act of natural respiration. The hands grasping the lower portion of the chest and carefully placed over the two lowest, the

floating ribs, throws upward the abdominal organs against the diaphragm, and that in turn expels the contents of the lungs. Then by the relaxation of the pressure for two seconds, the natural elasticity of the chest walls causes the chest to expand, and the air rushes in to fill the lungs.



FIG. NO. 2.

When only one person is present his whole time should be given to artificial respiration. That is the one important thing. If there is a second person, have him see that the victim's mouth is free from gum, tobacco, false teeth, blood or mucus. He should see that the tongue is forward and that nothing constricts the neck.

After breathing has commenced, restore the animal heat. Wrap him in warm blankets, apply bottles of hot water, hot bricks, or anything to restore heat. Warm the head nearly as fast as the body, lest convulsions come on. Rubbing the body with warm cloths or the hand, and slapping the fleshy parts may assist to restore warmth, and the breathing also.

Beware.

Avoid delay. A moment may turn the scales for life or death. Dry ground, shelter, warmth, stimulants, etc., at this moment are nothing,—artificial breathing is everything,—is the one remedy,—all others are secondary.

Do not stop to remove wet clothing before efforts are made to restore breathing. Give all your attention and effort to restore breathing by forcing air into and out of the lungs.

Before natural breathing is fully restored, do not let the patient lie on his back unless some person holds the tongue forward. The tongue by falling back may close the windpipe and cause fatal choking.

Prevent friends from crowding around the patient and excluding fresh air; also from trying to give stimulants before the patient can swallow. The first causes suffocation; the second, fatal choking.

Do not give up too soon. You are working for life. Any time within two hours you may be on the very threshold of success without there being any sign of it.

In suffocation with smoke, any poisonous gas, by electric shock, or by hanging,—proceed the same as for drowning, omitting effort to expel water, etc., from the windpipe.

Health of Home and School.

LEAFLET NO. 14.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

The following instructions for saving drowning persons by swimming to their relief and the treatment of frost bites are those which are recommended by the United States Life Saving Service.

Swimming to the Relief of Drowning Persons.

1. When you approach a person drowning in the water assure him with a loud and firm voice that he is safe.

2. Before jumping in to save him, divest yourself as far and as quickly as possible of all clothes; tear them off if necessary; but if there is not time, loose at all events the foot of your drawers, if they are tied, as, if you do not do so, they will fill with water and drag you.

3. On swimming to a person in the sea, if he is struggling do not seize him then, but keep off for a few seconds till he gets quiet, for it is sheer madness to take hold of a man when he is struggling in the water, and if you do you run a great risk.

4. Then get close to him and take fast hold of the hair of his head, turn him as quickly as possible onto his back, give him a sudden pull, and this will cause him to float, then throw yourself on your back also and swim for the shore, both hands having hold of his hair, you on your back and he also on his, and of course his back to your stomach. In this way you will get sooner and safer ashore than by any other means, and you can easily thus swim with two or three persons; the writer has even, as an experiment, done it with four, and gone with them 40 or 50 yards in the sea. One great advantage of this method is that it enables you to keep your head up and also to hold the person's head up you are trying to save. It is of primary importance that you take fast hold of the hair and throw both the person and yourself on your backs. After many experiments, it is usually found preferable to all other methods. You can in this manner float nearly as long as you please, or until a boat or other help can be obtained.

5. It is believed there is no such thing as a death grasp; at least it is very unusual to witness it. As soon as a drowning man begins to get feeble and to lose his recollection, he gradually slackens his hold until he quits it altogether. No apprehension need, therefore, be felt on that head when attempting to rescue a drowning person.

6. After a person has sunk to the bottom, if the water is smooth, the exact position where the body lies may be known by the air bubbles, which will occasionally rise to the surface, allowance being of course made for the motion of the water, if in a tideway or stream, which will have carried the bubbles out of a perpendicular course in rising to the surface. Oftentimes a body may be regained from the bottom, before too late for recovery, by diving for it in the direction indicated by these bubbles.

7. On rescuing a person by diving to the bottom, the hair of the head should be seized by one hand only, and the other used in conjunction with the feet in raising yourself and the drowning person to the surface.

8. If in the sea, it may sometimes be a great error to try to get to land. If there is a strong "outsetting" tide, and you are swimming either by yourself or having hold of a person who can not swim, then get on your back and float till help comes. Many a man exhausts himself by stemming the billows from the shore on a back-going tide, and sinks in the effort, when, if he had floated, a boat or other aid might have been obtained.

9. These instructions apply alike to all circumstances, whether as regards the roughest sea or smooth water.

Treatment of Frostbites.

1. Do not bring the patient to the fire, nor bathe the parts in warm water.
2. If snow is on the ground or accessible, take a woolen cloth in the hand, place a handful of snow upon it, and gently rub the frozen part until the natural color is restored. In case snow is not at hand, bathe the part gently with a woolen cloth in the coldest fresh water obtainable—ice water if practicable.
3. In case the frostbite is old, and the skin has turned black or begun to scale off, do not attempt to restore its vitality by friction, but get the advice of a physician, meanwhile wrapping in flannel.
4. In the case of a person apparently dead from exposure to cold, friction should be applied to the body and the lower extremities, and artificial respiration practised as in cases of the apparently drowned. Even if no signs of life appear, friction should be kept up for a long period, as instances are on record of recovery after several hours of suspended animation.

Sunstroke.

The attacks which are popularly known as sunstroke, or heat stroke, are divided into two different classes. One is sunstroke proper, and the other is heat exhaustion. The symptoms and conditions are so different that they require two very different lines of treatment; but, whichever is present, prompt and intelligent action is required.

In Sunstroke proper, or heat fever, the skin is hot and dry. The chief danger is in the excessive temperature. Get the patient into the shade as speedily as possible; place him with head and shoulders elevated; loosen collar, necktie and all tight clothing. The next thing to do is to lower the body temperature as quickly as possible. Pour cold water over the head and face, and if very hot rub the body with pieces of ice. If the patient is able to swallow give cool drinks of water. Do not give alcoholic stimulants.

In Heat Exhaustion the conditions as regards temperature are just the opposite to those in sunstroke. The person is pale and faint, and the temperature is usually below normal. Remove to nearest shade. Place on the back with his head on a level with the body. Loosen tight clothing. Rub the hands and feet until the circulation is restored. Hot baths with a temperature of 110 may be used if available, or hot bricks or other methods of restoring the temperature of the body to the normal should be resorted to. Give hot drinks or hot tea, coffee or milk or water.

When hot weather comes on persons whose occupations expose them to great heat, whether artificial or that of the direct rays of the sun, such as bakers, laundrymen, workers in foundries and housekeepers working in heated kitchens, should avoid excesses of all kinds. They should dress lightly, not overload the stomach, especially with solid food, and should not over-work. An abundance of cool water so as to encourage perspiration should be used, but the use of iced water is not advisable. Free perspiration is a safeguard against sunstroke, but the moment perspiration ceases and the person begins to feel uneasy, with a slight or throbbing headache, dizziness, etc., work should be given up at once and rest in a cool place should be sought. In an hour or so the person thus affected may cautiously resume work. The use of alcoholic drinks predisposes to sunstroke.

Get and keep a full set of these leaflets.

Keep on hand a full set of these leaflets.

Health of Home and School.

LEAFLET NO. 15.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

The Cigarette and the Boy.

These two should never go together. In many countries and in many states there are laws which provide severe penalties by fine or imprisonment, or both fine and imprisonment for persons who sell or give away, cigarettes to boys. Maine has such a law. It is a good reasonable law. Why every right-thinking man or boy should wish to have this law strictly enforced, and should be willing to use his influence to have it enforced may be learned by reading this leaflet.

About Boys.

Our boys are the men of the years to come, growing up to take their places as good, patriotic, useful citizens of our state. While growing up they need pure air, pure water, simple food, plenty of sleep, and exercise got in play and work. The body of the growing boy is the most wonderful machine in the world. While working it all the time the boy is building it up so that it is becoming stronger, more effective, and more nearly perfect every year, or it should be so. Nothing should be allowed to hinder the building up of this machine or to mar its workings. Insufficient or unsuitable food will do it. So will various wrong habits, and so will bad air and various kinds of poisons. Among the vilest, the most treacherous of the poisons for the boy is that of tobacco.

The Tobacco Poison.

And is tobacco really and truly a poison? Some of the surest "kills" for parasitic life on plants and for the vermin on domestic pets, poultry and live stock are made from tobacco. But in applying tobacco tea or other tobacco products, caution is required else the pet animal may be killed together with the "bugs" which plague him. The tobacco poison is hostile to all forms of animal life, the highest as well as the lower. Taken in excessive quantities tobacco produces delirium, blindness, trembling, complete prostration, cold clammy sweats, convulsions, paralysis, and death.

In the smaller doses of the poison which are taken in while smoking, the effect is, of course, less noticeable, but the boy or youth who uses tobacco is almost certainly dwarfing body and mind. After the age and full development of manhood, many men use tobacco without apparent harm, while the effects in other men are serious disturbances of the action of the heart and of the stomach, dimness of vision and serious changes in the arteries. In the University of Michigan it was shown that the use of even moderate amounts of tobacco by smoking lowers the working power of the human muscle in a high degree. Aside from lowering the power of muscular contraction, tobacco interferes with the fine control of the nervous system over muscular action. On account of the damaging influence on muscles and nerves, young men in the colleges who use tobacco are, as a rule, absolutely excluded as unfit when making up teams for athletic contests.

Though many men may not be appreciably affected by the use of tobacco, the results of cigarette or other forms of tobacco smoking are disastrous on boys. This has been proved again and again.

Many young men competing for a West Point cadetship, and still larger numbers wishing to enlist in the army, have been rejected on account of "tobacco heart."

Dr. J. W. Seaver, College Physician of Yale University, in his examinations and measurements of the students upon entering the university and their development while there, found that the non-users of

tobacco increased 13.4 per cent. more than the regular users and 6.6 per cent. more than the occasional users. In the growth in height those who did not use tobacco increased 24 per cent. more than the regular users and 14 per cent. more than the occasional users. In the growth of chest girth those who did not use tobacco had an advantage over the regular users of 26.7 per cent., and over the occasional users of 22 per cent. In capacity of lungs and lung power the growth is in favor of the non-users by as much as 77.5 per cent. when compared with the regular users and 49.5 per cent. when compared with the irregular users. Dr. Seaver says that while it has long been recognized by the ablest medical authorities that the use of tobacco is injurious to the lungs, the extent of its influence in checking the growth in this and in other directions has, he believes, been widely underestimated.

Investigations similar to those of Dr. Seaver's were made by Prof. Hitchcock of Amherst College, and with practically the same results. He found that the development of the tobacco users was seriously retarded. In Bowdoin College too, Dr. Whittier has observed bad effects among tobacco-using students.

Effect Upon Intellect and the Moral Nature.

As long ago as 1855, Bertillon of France, in investigating the action of tobacco upon the boys in the Polytechnic School of Paris, found that the users of tobacco averaged lower in rank at their examinations than did the boys who did not use tobacco. He also found that the average rank of the smoker as compared with the non-smoker became lower and lower from the time of entering the school until the time of leaving it, provided the smoking continued.

Dr. Stuver as president of the Wyoming Scientific College, made a study of the effect of tobacco on boys. He says that it "has a peculiarly demoralizing effect on the moral nature of the young. In addition to making boys tired, stupid and lazy, it makes them irritable, perverse and careless of the rights and feelings of others. I have seen quite a large number of so-called 'fiends' and have yet to find the first one on whose word I could rely in a business transaction. There may be honest ones, but if so, I have never met them."

Cigarette Boys Not Wanted.

Many others besides Dr. Stuver have come to consider as untrustworthy the boys who use cigarettes. Many business firms now make it a rule not to employ them. In some of the cities there are associations of business men pledged not to employ any cigarette smoking boys on the ground that the average cigarette boy is not worth hiring.

A Word to the Boy.

To the boy who is thinking of using cigarettes or tobacco in any form, the very best advice is, don't! It will have too bad an effect. It will stunt your body and mind and put you in a condition so that you will not be respected and trusted and wanted as you will be if you let the cigarettes alone.

Boy Scouts and Cigarettes.

Certainly, you will want to become a Boy Scout; then let the cigarettes alone, so that they will want you and can trust and respect you. The fun and success of being a Boy Scout comes from having every sense well trained and alert, and every nerve and muscle under the finest control. But the cigarette or tobacco comes in here as a spoiler. The cigarette boy is not so sharp, so alert, and so much a master of himself as are other boys. Yes, let the cigarettes alone so that you may be a worthy recruit to the ranks of the Boy Scouts and not a cigarette runt and underling. Don't let the cigarette be a confession that you are a degenerate.

Keep on hand a full set of the leaflets.

Health of Home and School

LEAFLET NO. 17.

Issued by the State Department of Health of Maine.

Water for the Home and Farm.

The diseases which are spread by water supplies which are not good and pure are so frequent and serious that everybody should have correct information about these matters. It is hoped that this leaflet may give such information in a useful way.

Dangers from Impure Water.

This can best be shown by a few examples: In the spring of 1885, a man had typhoid fever in a house not far from the stream which supplied Plymouth, Pa., with its drinking water. The discharges from this one man while ill were washed into the stream, and although there were four reservoirs or ponds made by damming the river between this house and the place where the public water supply was taken out, there was a sudden outbreak in the city—1,104 cases with 114 typhoid deaths.

The city of Hamburg, Germany, in 1892, was taking its water from the river Elbe without purifying it by filtering or otherwise. Altona, joined right on to Hamburg, and really a part of it, had the same river water, but it was filtered. In that year Hamburg had a bad outbreak of Asiatic cholera. There were 18,000 cases and over 8,000 deaths. In Altona the death-rate per 100,000 of population was less than one-sixth as great as it was in Hamburg and many of these cases were among the people who worked in Hamburg and drank the bad water supplied in that city.

Taught by this terrible lesson Hamburg began to filter its water in May, 1893. Typhoid fever, before that, had been a severe plague to Hamburg. For instance, in the four years, 1885-1888, there were 15,804 cases. After the filtration of the water was begun the death-rate from typhoid fever dropped to but a little more than one-sixth of what it was before.

In Millinocket, in our own state, in the spring of 1901, a fire broke out. To fight the fire, water was pumped from the stream below the village sewer directly into the pipes which supplied the hydrants with water, and at the same time supplied the people with drinking water. By thus filling the water pipes with impure water a severe outbreak of typhoid fever was caused in Millinocket. But this was not all of it. Millinocket stream flows into the West Branch of the Penobscot. Bangor and Old Town, taking their supplies from the Penobscot River about seventy-five miles below Millinocket, both soon had very severe epidemics of typhoid fever by using the river water which had been polluted by the sewage from Millinocket and the infection from the cases of typhoid fever in that village.

Many other outbreaks of typhoid fever in Maine, great and small, might be cited to show how much trouble, cost and sorrow, people bring upon themselves by drinking impure water.

What Diseases are Caused by Impure Water.

The most frequent and severe diseases caused by impure drinking water are typhoid fever and cholera, but serious attacks of diarrheal diseases are spread in the same way, and water flowing through lead pipe very often causes serious and long-lasting illness among people who use the water, without their suspecting that the trouble is lead poisoning.

The Difference Between Polluted Water and Infected Water.

A well, as too many wells are, is too near the outhouse of a farm home. The filth drains or soaks into the well. The water of this well is polluted water. But, it may happen that none of the people using the

water for many years have typhoid fever or any disease that could be referred to the water.

But there comes to this home a person who is an "infection carrier." (See Leaflet No. 12, "Infection Carriers.") Then typhoid fever breaks out, and there are deaths, and there is life-long sorrow. That is because the polluted water has become infected.

Did you ever hear of anybody who had his well-water analyzed and it was found to be badly polluted and then the owner laughs at the idea, because he had drunk the water a dozen years or more and had not been hurt by it, as he thought?

And did you ever hear the story of Damocles over whose head a sword was suspended, hanging by a slender thread? Those who use polluted water are always in danger as was Damocles. The sword may fall any time. Polluted waters are those which are the most likely to become infected waters. A degree of prudence which common sense would dictate should keep us from using polluted waters.

How Wells and Springs are Polluted.

Pollution almost always comes about by carelessness in having wells too near the sources of filth,—outhouses, barn yards, drains, sewers, etc., or by carelessness in constructing them, or in not taking proper care of them afterwards.

In too many wells the stoning is not carried high enough to allow the surrounding ground to be graded off so the surface wash may be drained from the well. It runs directly in without filtering through the soil. Aside from properly grading off the surface surrounding the well, a good layer of puddled clay beneath the surface and sloping from the well, and extending a considerable distance from it, would give a good degree of additional security.

One Great Protection.

With ordinary soils it is a great protection against the pollution of wells if any surface soakage which finds its way into them has to travel a considerable distance through the soil to get there. It is because the soil can act, in some degree, as a filter. And there are other reasons.

But in some places the layers below the earth's surface do not afford protection. Gravel affords little or none. Sand is the best, and ordinary sandy or light loam the next best. A shallow soil and a waterproof layer of clay or ledge near the surface may carry foul soakage quite long distances into wells.

Drilled Wells.

Ledges often have seams or crevasses through which polluted drainage in its worst form may reach drilled wells, even if they are carefully cemented at the top. Even if you have wells thus carefully constructed, it is risky to allow the ground near the well to become filthy or to remain so.

Do Wells Require Ventilation?

It is a popular fallacy that wells need ventilation—that the water should be exposed to the air. In thus exposing it an abundant way is furnished for the admission of dust, dirt, worms, toads and other animals to die and to pollute the water. Pure water in the ground does not need the action of air.

Another Error.

Many people suppose that if water is clear and looks all right and tastes all right, it is all right. But some clear and sparkling waters, with no suspicious tastes, are dangerously polluted and infected.

Springs.

The same conditions which endanger wells may lead to the pollution of springs. They should have the same care as wells require. In their natural condition (unpolluted) the springs and wells of nearly all parts of Maine furnish good and pure drinking water.

The Golden Rule.

Truly the Golden Rule as applied to wells and springs is to keep the ground around them clean.

Health of Home and School.

LEAFLET NO. 19.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

The Danger From Lead Water Pipe.

The work in the Laboratory of Hygiene in finding dangerous quantities of lead in samples of water from homes in which the family physician has found symptoms which have made him suspicious of lead poisoning has strongly emphasized the danger from lead poisoning in families using water which flows or is pumped through lead pipe.

In the histories of chronic lead poisoning from this source in this State and elsewhere two notable observations are often made:

One is that a given water may for years be conducted through lead pipe meanwhile dissolving only very slight traces of lead and then, for some cause or other, becoming loaded with dangerous quantities of lead.

The other is that among the several members of a family all using the same lead-polluted water, one person only or only a part of the members become affected so as to present marked or serious symptoms. It would appear that different individuals have very varying degrees of susceptibility to the action of lead.

Symptoms.

The symptoms which result from the long-continued taking of small quantities of lead may be very obscure, simulating those due to many other causes and raising no suspicion of lead poisoning.

Serious conditions of ill health may develop without colic and some other symptoms which are commonly looked for as typical of lead poisoning. The lead-line on the gums is not invariably present. The symptoms usually are a combination of some of the following:

Pallor of the face with, in some cases, a grayish-yellow hue, emaciation, weakness, shortness of breath, and the appearance of premature senility.

Indigestion, loss of appetite, the abdomen not usually bloated; continuous and often very obstinate constipation, though diarrhoea is sometimes a prominent symptom; even when no colic appears the pain in the gastric region and abdomen is sometimes so continuous as to suggest malignant disease. The lead-line and severe constipation are pretty sure to be well marked in cases in which lead colic has supervened.

Often an increased tension of the pulse, and frequently some of the other pathologic conditions are present which go to make up a serious disease of the arteries, which ends the life of many persons past middle age. Some of the symptoms present are disturbance of the heart's action and shortness of breath.

Disturbance of the renal function, often quite marked. Muscular pains and pain and swelling of the joints, which are usually thought by the patient to be rheumatic. In some cases gout is closely simulated. The pain is usually worse at night.

Headaches, neuralgia and sometimes neuritis, weakening or paralysis of muscular action, interfering with walking or the free use of the hands; muscular tremor; neurasthenia; cerebral symptoms and convulsions in children.

In some cases there has been a very marked improvement in the health when the patient has discontinued the use of water which has been shown to contain lead. In other cases in which the diseased conditions have gone far or have existed long, recovery is slow or only partial.

Histories of Cases.

The following condensed histories of cases of poisoning from water with traces of lead in it will help to illustrate the characteristics of the symptoms.

Case 1. A man only 38 or 39 years of age, yet he presented marked symptoms of premature aging. Could not sleep in bed; had to sit up nights. He had laryngitis and lost his voice. Lead poisoning was suspected. The sample sent to the Laboratory was found to contain lead. After getting the water supply from another source, he improved greatly in every way.

Case 2. Mrs.....had been troubled with numbness of the arms for a long while especially at night. Since the water supply was found to contain lead and the water supply was changed the numbness of the arms has entirely disappeared and the general health of the family has improved.

Case 3. A man 54 years old. Chief symptoms were colic, constipation, weakness of all the muscles, lost 10 pounds in weight, some tremor and numbness of the hands. Marked improvement after discontinuing the use of the lead-polluted water.

Case 4. A young woman. She was very pale, somewhat emaciated and quite weak. Severe lead colic with blue line on the gums. Vomited considerably and was constipated. There was marked improvement after abandoning the lead polluted water supply.

Case 5. Home bought eight years ago. The water supply was pumped through 64 feet of lead pipe. The mother had a severe attack of neuritis and was weak. The two boys had frequent attacks of stomach-ache, as they called it. The lead pipe was finally removed and an iron pipe substituted. Since then, the attacks of lead colic, as it appears to have been, are becoming very rare.

Case 6. In a general way, one Maine physician relates as follows his observations of cases which seem to be due to lead poisoning. All or nearly all had more or less nervous symptoms, some in one way and some in another. Nearly all complained of heart, short of breath, etc., though I could find no organic trouble. All had a good deal of trouble with the stomach; most of them had no desire for food though one or two wanted to eat all the time but lost strength and felt sick; constipation the rule, though diarrhoea in one or two cases; more or less vague pains in the muscles resembling rheumatism, muscles stiff and sore.

Case 7. A physician writes that in one family without doubt the father has lead poisoning. He has the blue line on his gums, constipation, etc., but the most important symptom is nervousness which at times almost amounts to insanity. He also has much pain in the joints and has taken rheumatic medicine without getting relief. Other members of the family are well although they have all drunk the lead-polluted water.

Amount of Lead Surface.

In some instances serious lead poisoning has developed when the piece of pipe through which the water came was very short. In one severe experience with lead poisoning, the trouble came from an old lead clock-weight which was found in the bottom of the well. On the other hand, water sometimes comes through many feet of lead pipe without producing symptoms. There is less danger, though not always an absence of harm, when the water is constantly flowing through the pipe.

Lead Poisoning Among Animals.

In one instance where the human dwellers on the premises suffered from lead poisoning, three head of stock were lost in one winter, and at another home where there were cases of lead poisoning, the water killed the chickens, so the doctor thinks. In another Maine home where lead pipe was the cause of poisoning to the members of the family, a valuable driving horse developed weakness of the hind legs and of his back, "went all to pieces," as the owner expressed it, and had to be killed. These fatalities among animals are merely suggestive; but other observations on the effects of lead-polluted water seem to indicate that an unthrifty condition and colic may be the result of watering animals with such water.

Health of Home and School.

LEAFLET NO. 20.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

The Surest Way to Spread Infection.

While we have for ages been impressed with the danger of the spread of disease through the air and by means of clothing, bedding, and rooms which have presumably been surcharged with infection, we have of late been emphasizing strongly another way in which the infection of certain diseases is spread with the utmost certainty—by direct infection, "contact infection," it is often called. For example, we may go into the room where there is a case of typhoid fever or of diphtheria, and by observing proper precautions there will be but little danger of taking the disease or of carrying it to others; but in attending to the wants of the patient our hands become contaminated by contact with him or his clothing or bedding or other things which have been soiled by him—then, if without washing or disinfecting our hands very thoroughly we put our fingers to our lips or nose or handle food which is going to our mouths, there is serious danger of taking the disease. If we infect our hands by actual contact with infectious persons or things, or if we carelessly sit upon the infected bed of the sick person, the hands or clothing will be much more likely to carry infection than they would with the much slighter chance of having infection carried to them by the air.

Contact Infection.

What has already been said explains what is meant by contact infection. It only remains to emphasize the large part it has in spreading infectious diseases. In some hospitals, particularly in some of those in Paris, they have been caring for cases of typhoid fever, scarlet fever, diphtheria, measles and even smallpox, all right in the same room together. They have even been taking care of persons with diphtheria, scarlet fever, or other infectious diseases in the rooms of the general hospitals where persons are sick with troubles other than the infectious diseases. And this has been done with a remarkably few transmissions of infections to other patients. These infectious persons have been separated from the other patients by light partitions extending upward only a few feet from the floor or by screens or by partitions of wire netting letting the air circulate freely through, or by only a tape extending around the few feet of floor space belonging to each infectious person—these enclosures only to remind the nurse constantly that she is dealing with infection and that she must always be exact in her obedience to certain rules. And what are those rules? Simply that she shall be scrupulously careful all the time to avoid the infection of her clothing by contact with infected things and that, before leaving the enclosed space, her hands must be washed and disinfected with solutions which are known to be trustworthy. Though we may not be ready to follow the French doctors in their methods, the results in those hospitals and in a few others outside of France have certainly shown how much may be accomplished in preventing the spread of infection by strict precautions against contact infection.

The Mouth, An Open Portal.

Infection may be received into the system by breathing it in or by having it inoculated through the skin by cuts, punctures, or the bites of insects; but the mouth is the principal port of entry for those undesirable immigrants, the disease germs of many of our infectious diseases. We can mention only a few of those infections.

Typhoid Fever.

The large outbreaks of typhoid fever are almost always due to infected water and infected milk, but following the primary cases in the outbreaks there is great danger of other cases in the same families coming down as the result of contact infection. One boy in a family of eleven came down sick with typhoid fever. Eight others in this family took the disease from him. In another family one of the boys brought home typhoid fever. The mother, a very untidy woman, with unwashed hands, went from her care of the sick boy to her preparation of the meals for the family. The other two boys came down with a very malignant form of the disease, due undoubtedly to the massive doses of infection the unwashed hands of the mother had conveyed. Nurses even in hospitals where they are supposed to be well trained and thoughtful sometimes take typhoid fever from their patients because they do not keep their fingers away from their mouths.

Tuberculosis.

A young man in Maine died with tuberculosis. The cornet which he had played came into the possession of another young man. He died of tuberculosis. A third young man then had the instrument. He also caught the disease from the cornet and died. A teacher in a high school, an estimable lady who had tuberculosis, was in the habit of greeting her young lady pupils with a kiss. Four of these young ladies in four different families died with tuberculosis within a few years. Many other histories show with what certainty tuberculosis can be carried by things which pass from lip to lip, or are used in common by tuberculous patients and other persons—spoons, forks, common drinking cups, pipes, pencils, etc.

Scarlet Fever.

Scarlet fever may be carried in the air short distances indoors but there is a greater degree of certainty of its transmission by coming in contact with the sick person—by infecting the fingers, transferring the infection to the mouth or nose, etc. Letters written in the scarlet fever sick-room have been known to carry the disease to the children in families to which such letters were sent many miles away. It is likely that such letters received their infection from the infected hands which wrote them rather than from infected air. The scales which fall from the skin of persons during the process of peeling (desquamation) are likely to have due consideration, but the public underestimates the infectious character of the secretions from the throat, mouth and nose or the discharge from the ear which may be a sequel of the attack of scarlet fever. These are sources of the infection which may spread the disease by direct or indirect contact infection.

Diphtheria.

In this disease there is great danger of the transmission of infection direct from the sick to other persons or by indirect contact infection when spoons, handkerchiefs or other things from the sick-room are not properly sterilized before other persons use them. In numerous instances the heroic devotion of physicians to their sense of duty has caused their death from diphtheria after applying their lips to the tracheotomy tube which has become obstructed by the infectious membranes from the windpipe and must be removed instantly to save the life of the sick child. Infection thus received is in massive doses, and the malignancy of infectious diseases seems to depend largely upon the size of the dose of infection received.

The final word is that the infection of many diseases is spread with the utmost degree of certainty by persons and things which have been in actual contact with the sick persons. It cannot be emphasized too strongly that such persons and things, before they leave or are carried from the sick-room, and before they are used by other persons or come in touch with them, should be sterilized (disinfected) in no uncertain way. And beware of infected fingers.

Health of Home and School.

LEAFLET NO. 21.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Accidents and Emergencies of Childhood.

The purpose of this leaflet is to teach what to do when some accidents and emergencies occur among children. By knowing how to do the right thing promptly, much suffering may be prevented and sometimes life may be saved.

Things accidentally swallowed.

If still in the throat, or you are not sure where it is, quickly explore with the finger and remove any foreign body found there. Articles accidentally swallowed, if they have passed through the gullet, are small enough to go the rest of the way without trouble. If the swallowed article has sharp points or a cutting edge, cathartics should not be given, as the loaded condition of the bowels affords protection to the intestinal walls by coating the article. Sometimes it is advisable to give bulky articles of food like potatoes or other vegetables which leave considerable waste matter in the intestinal canal. If there are no witnesses to the act of swallowing, search in the cradle and elsewhere for the missing things.

Foreign bodies in the windpipe.

If articles have been drawn down into the windpipe, violent coughing suddenly occurs. The foreign body may be expelled by the coughing or fatal suffocation may occur. The doctor should be summoned quickly. In some of these cases, life can be saved only by prompt operation.

Meanwhile a slap on the back between the shoulders with the open hand sometimes aids in the expulsion of the object. If that does not suffice, suddenly reverse the child holding him by the feet suspended while he receives a slap between the shoulders. But if not successful, do not persist. The doctor is what is needed. Occasionally small articles settle down into one of the smaller of the bronchial tubes and considerable irritation or even a local abscess or long lasting illness may result.

Foreign bodies in the nose.

If foreign bodies in the nose cannot be removed by blowing the nose, the expedient of putting a pinch of snuff into the unobstructed nostril, that sneezing may be excited, may be tried. It is inexpedient to resort to unskilful manipulations. The result is usually the pushing of the article farther up into the nose. Better leave it for the doctor to remove. Dried peas or beans which children sometimes push into their noses should be removed as soon as they can be, else their swelling may cause a serious condition and make the removal much more difficult.

Foreign bodies in the ear.

It is more difficult to remove foreign bodies from the ear. If not removed, they may excite an inflammation that may extend to the base of the brain, and unskilled attempts at removal are still more dangerous for the reason that the foreign body is pushed down against the drum of the ear and may even rupture the drum membrane which is only three-fourths of an inch from the surface. If the doctor is not available, the safest way to try to remove the object is by syringing with blood-warm water.

Insects may be drowned or floated from the ear by filling the passage of the ear with warmed olive oil or water.

Foreign bodies in the eye.

Most of the small substances which find their way into the eye may easily be removed. Occasionally a metallic particle or cinder is driven into the membrane which covers the globe of the eye so that it adheres somewhat tenaciously. The child should be restrained from rubbing the eye. Sometimes the particle can be removed by catching the upper lid by the lashes and pulling it away from the eyeball and down over the lower lid, then letting it go so that as it recedes, the under surface of the upper lid is swept by the lashes of the lower lid.

If this does not suffice, the upper lid should be turned upward and backward, that is, inside out, so that it may be seen whether the particle adheres to the under surface of the lid or is attached to the globe of the eye. The upper lid may be everted by seizing the lashes between the thumb and first finger and drawing the edge of the lid away from the eyeball while at the same moment a slender pencil or knitting needle or something of the kind may be placed against the eyelid parallel to the edge of the lid, a third or half an inch above the edge, and then pulling the edge of the lid upward and turning it over by means of the lashes. With a little experience in doing this, it can easily be done, thus exposing a large part of the eyeball and the inner surface of the lid. Any foreign particle found may be removed by brushing it off with the corner of a handkerchief or with the eye-end of the a long darning needle.

Particles of quicklime, or lime during the process of slaking, thrown or spattered into the eye, forms a serious emergency. The quicklime rapidly burns the surface of the globe of the eye and its covering lids resulting in very serious injury unless very quickly removed or neutralized. The eye should be quickly flooded with water and still better neutralized with a few drops of vinegar added to the water. This should be followed by instilling a few drops of olive oil into the eye at short intervals.

Falls.

The great elasticity of the bones of the infant often saves it from serious injuries which would result to older persons. If, in falling, the child strikes upon its head, or if he receives a blow upon the head, it must not too speedily be concluded that no injury has resulted, for serious symptoms may result and they may not develop until some time afterwards. It is better in cases of injuries to the head, to keep the child as quiet as possible for several days thereafter.

Convulsions.

Until the doctor comes, keep the child very quiet and apply ice to the head or sponge the head with cold water. Then roll the body in towels that have been wrung from warm mustard water. Apply the same to the feet and legs. But be careful to keep the mustard from the baby's eyes and remember that the baby's skin is very tender and that particles of mustard floating in the water may easily blister the skin. So, for each quart of water to be used, put one heaping tablespoonful of mustard into a little square of muslin or a thin clean rag, tie it up, and pour the water upon it. Then stir the bag around in the water.

Have ready an abundant supply of hot water and a bath tub so the doctor may give a hot bath if he deems it best to do so. In the excitement, there is danger of having the bath too hot. Its temperature should not be more than 105° F., and if a thermometer is not at hand, the water should be tested by plunging the arm to the elbow into it and letting it remain until assured that the water is not uncomfortably warm. In ten minutes remove the child from the bath, and without drying, wrap quickly in a warm blanket.

In applying the mustard water or the hot bath, be careful not to chill the skin in the least or for a moment.

Have you a full set of these leaflets in your home? If not, get them and keep them.

Health of Home and School.

LEAFLET NO. 23.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Typhoid fever, how not to have it.

Every year we pay a heavy penalty for our old fashioned notions and our carelessness about typhoid fever. Typhoid fever is an infectious disease, but it can be prevented and should be prevented.

How shall we do it?

We must understand clearly (1st) that the cause of typhoid fever is a microscopic plant growth. It is called the bacillus of typhoid fever. This bacillus is the infection of the disease. The only sources of it are the living bodies of persons who have typhoid fever or have had it. There is just one other source: infection carriers. Read Leaflet No. 12 to understand what that means.

(2nd) Typhoid fever can be spread only by the carrying into the mouths and intestinal tracts of other persons particles from the infectious discharges of persons who have typhoid. The ways in which this may be done are:

(a) By his infected fingers a person may carry the infection directly to his own mouth and lips, or he may, with his hands which have been unwashed and undisinfected, contaminate his own food or that of others, thus spreading infection. Food may be infected by the fingers of persons with typhoid fever, or by the fingers of attendants upon the sick.

(b) Cups or spoons or other eating utensils used by the sick may serve as the agents of transmission.

(c) Flies which go to the sickroom, or to infected privy vaults, or to other sources of infection may then infect milk, bread or other supplies.

(d) Sudden and severe outbreaks of typhoid fever are sometimes due to milk which has been infected while milking or during the subsequent handling or distribution of it.

(e) Wells, springs, cisterns and public or other water supplies may serve as a medium of infection after they, directly or indirectly, have received infected matter from typhoid discharges.

Personal rules and precautions.

1. The carrying of infection by infected fingers is one of the greatest of the dangers. While in the sickroom of the typhoid fever patient, the attendant must be unceasingly thoughtful and careful. The fingers of the nurse must be kept from her mouth and lips. Typhoid fever can be introduced into the system only through the mouth. This must be remembered always. After touching or handling any infected articles, and after coming from rooms or other places where infection may exist, the hands should be washed very carefully with soap and water and disinfected if it is convenient to do so.

2. Persons in typhoid fever houses should wash their hands frequently, being very careful to do so every time after leaving the toilet room and every time just before eating.

3. Guard carefully against infecting drinking water, milk or other foods with unwashed hands. The mother or nurse who attends to the wants of the typhoid fever patient and then prepares the family meal without carefully washing her hands endangers the other members of the family very much.

4. In a typhoid house, do not eat anything in the sickroom or anything which has been in the sickroom. Avoid cold and raw foods as much as possible.

5. When typhoid fever has occurred in a house, regard the water supply with suspicion. By boiling water all typhoid infection in it is destroyed. It is therefore a good rule to begin immediately the boiling of the drinking water upon the first appearance or even suspicion of a case of typhoid fever in the family.

6. Immediately after food is cooked, cover it so that flies may not carry infection to it.

7. By screening doors and windows exclude flies from all living rooms. Flies may bring infection from a distance. Kill every fly which chances to enter the room.

8. Flies should be excluded from the typhoid fever sickroom, from privy vaults and from other places where they may load themselves with infection and spread it.

9. Keep kitchen and table dishes thoroughly clean and scald them before use.

10. With the utmost care keep infectious matter far from springs, wells or other sources of water supply. Do not have washing done near any source of water supply.

Rules for the sickroom.

The aim of the sickroom management should be the prompt destruction of every vestige of infection leaving the patient in the solid or liquid discharges so that infection may not be communicated to other persons.

1. Precautionary measures should be begun as soon as any suspicious symptoms indicate the probability, or even the possibility of typhoid fever. Many persons are disseminating typhoid infection before they are sick enough to take to their beds. Get busy with the first suspicion of typhoid fever.

2. Unnecessary visitors should be excluded from the sickroom. The nurse, observing the proper precautions, will not endanger other persons.

3. By means of screened doors and windows, flies should be excluded from the sickroom.

4. In convenient proximity to the sickroom there should be a tub or other large vessel partly full of Solution 1 or 6; this for the immediate reception of soiled clothing and bedding.

5. Just inside or outside of the door there should be a wash stand and wash basin with a supply of water so that the nurse, medical attendants and others who leave the room may wash and disinfect their hands, using Solution 1, 6 or 7.

6. All discharges from the patient should be disinfected very thoroughly by adding an equal volume of Solutions 1 or 5 and letting the mixture stand at least 4 hours before it is emptied. And a surer way to disinfect the discharges is to carry them out and pour upon them in the vessel at least five or six times their volume of really boiling water. Then give the heat time to act.

7. The ultimate disposal of the discharges from the patient may be down the water closet bowl if there is good plumbing and a water carriage system, and if nobody below has a water supply to be polluted. They must not be poured into a privy or earth closet vault. They should be buried far from any well, spring or other source of water supply.

8. If floors or anything else have been contaminated the places should be thoroughly soaked with Solution 1, 6 or 7 as soon as possible, and then cleaned after the disinfectant has had a chance to act sufficiently.

9. For a month at least after leaving his bed the convalescent from typhoid fever should be very careful not to endanger other persons, because many such convalescents are still giving off infection. Safe disposal of discharges should be continued and persons recently recovered from typhoid fever should do no milking nor cooking, nor serving or handling of food.

Disinfecting solutions.

Solution 1.—Seven ounces of carbolic acid (pure liquified) to one gallon of water.

Solution 5.—“Milk of lime” recently prepared and made with good fresh lime not air slaked in the least.

Solution 6.—One dram of corrosive sublimate (or 8 tablets) dissolved in one gallon of water. Must be mixed and kept in glass, crockery, or wooden vessels. Injures and is spoiled by contact with metals. Label, *Poison!*

Solution 7.—Six ounces of the strong solution of formaldehyde (Formalin) to one gallon of water.

Health of Home and School.

LEAFLET NO. 30.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE

Cases of Poisoning and What to Do.

The proper care of medicines for internal use and of liniments and other things for external application should be the rule and the practice in every home. All of these things, as well as poisons for rats and mice and all insecticides for domestic or agricultural use, should be plainly marked and kept in safe places.

The orderly care of all things which may have poisonous effects if improperly used is not only for the prevention of accidents and the saving of life, but the fact that death from some of the poisons from which accidents the most frequently occur is accompanied by the most agonizing and sometimes prolonged pain, should doubly emphasize the need of care in storing or keeping or handling these things. They should especially be kept beyond the reach of children.

Treatment.

When poisoning has occurred send for the doctor at once and order him to come quickly and to bring what he needs in poisoning cases. If known, inform him what the nature of the poison is, otherwise there may be a regrettable delay in getting the proper antidotes or instrumental aid for the patient.

But begin work without waiting for the doctor to come, and get to work quickly. Generally the first thing to do is to give an emetic—make the stomach empty itself. Every minute counts, so use what may be had the most promptly.

If at hand, stir a tablespoonful of dry ground mustard into a quart of luke warm water.

If the mustard is not at hand, use the same quantity of common salt in a quart of warm water.

Force the patient to drink cupful after cupful of one of these mixtures; between whiles tickling the back of the throat with the finger or with a large stiff feather. Keep this up, the draughts to repletion and tickling the throat until plentiful vomiting occurs. If mustard or salt is not available, give the water without them; if warm water is not to be had right off, give cold water while water is warming. If clean water is not to be had on the instant, use water from the wash bowl or dish water or any water. The saving of life, not fastidiousness, is the order of the day. Repulsiveness may aid the emetic effect.

There are two exceptions to the general rule to give an emetic. When caustic alkalies or acid poisons have been taken do not give an emetic. Get their antidotes into the stomach as soon as possible.

The following are specific directions for the treatment of persons who have taken certain kinds of poisons or classes of poisons. For some of them the doctor will have better methods of treatment.

Acids, sulphuric, nitric, muriatic or hydrochloric, acetic (does not include carbolic acid or prussic acid).—Give an alkali in doses large enough to neutralize the acid, whichever can be obtained the most speedily—powdered chalk or magnesia in large draughts of water, or lime water, washing soda, or even soap or wood ashes. Then give milk, white of egg shaken up with water, olive oil, or thick smooth gruel. Do not give emetics.

Alkalies, potash, soda, ammonia, lye, quick lime.—Give water freely with vinegar, citric acid, or lemon or orange juice, or cider; then soothing drinks, such as white of egg and water, milk, gruel, or barley water.

Aconite or aconitine.—Emetic; hot strong coffee by mouth or enema as a stimulant; keep up the warmth of the body by warm appli-

cations, strictly maintaining the recumbent posture; artificial respiration if necessary.

Alcohol, (grain or wood).—Same treatment as for aconite. In poisoning from wood alcohol, aid its elimination by free sweating and by the administration of large quantities of water in which sodium bicarbonate has been dissolved.

Ammonia water.—See alkalies.

Arsenic and its compounds; Fowler's Solution, Paris Green, London Purple, etc.—Emetics; raw eggs beaten up with milk plentifully, or equal parts of oil (olive or linseed) and lime water, or milk with its cream, or magnesia freely.

Belladonna, or atropine.—Emetic; strong coffee or tea by mouth, or a pint as enema.

Camphor.—Same as belladonna.

Carbolic acid, phenol.—Give a tablespoonful of Epsom salts or Glauber's salts in a cupful of water, preferably warm. If either of these is not at hand use alcohol as an antidote. Apply alcohol full strength to external injuries from carbolic acid and as whiskey, gin or brandy diluted where carbolic acid has been swallowed. Use promptly and liberally whichever is available. Then white of egg in water plentifully. Do not give oils and do not try an emetic.

Chloral hydrate.—Same as aconite.

Chloroform.—Fresh air; artificial respiration.

Coal Tar Remedies for pain and fever, which are often constituents of patent medicines advertised for headache, colds, grippe, etc. (acetanilid, antifebrin, antipyrin, phenacetin). The symptoms are faintness, nausea, and perhaps vomiting and purging, pulse weak, sweating, paleness, cyanosis.—Emetic; keep patient lying down; coffee or aromatic spirits of ammonia; warmth to extremities.

Cocaine.—Emetic; strong tea or coffee; maintain respiration artificially if need be.

Copper salts, blue vitriol, etc.—Emetic; whites of eggs, half a dozen or more, strong tea or coffee.

Corrosive sublimate, bichloride tablets or other salts of mercury.—Same as copper.

Creosote.—Same as carbolic acid.

Formaldehyde.—A very weak solution of ammonia water.

Gas, illuminating gas, poisonous fumes, choke damp, gas from charcoal stoves or gas stoves, water gas, carbonic acid gas, carbonic oxide, etc.—Plenty of fresh air, open all doors and windows; artificial respiration to be kept up for a long time; hot strong coffee as enema.

Gasoline, benzine.—Same as alcohol or aconite.

Hyoscyamus and hyoscyamine.—Same as for belladonna.

Iodine, tincture of iodine.—Emetic; starch and water boiled as for starching clothing, a large quantity; white of egg freely.

Lead Poisons, sugar of lead, etc.—Emetic, large tablespoonful of Epsom salts or Glauber's salts dissolved in a cupful of water; then white of egg and water.

Mushrooms, or poison from bad meat or fish.—Emetic; ounce of castor oil, and enema if necessary to clear out the intestines; warmth to extremities.

Opium, morphine.—Emetic; strong coffee without milk by mouth or enema; rouse the patient and keep him in motion; if approaching collapse cease exercising him but begin and keep up artificial respiration. If obtainable, potassium permanganate, a quantity of about the size of one or two grains of wheat may be used several times dissolved in water.

Oxalic acid.—Chalk, lime or whiting in water given freely; even the whitewash from a wall, ceiling or fence may be used. Two tablespoonfuls of castor oil to clear the intestines, or an emetic may be given.

Phosphorous, lucifer matches.—Emetics; large tablespoonfuls of Epsom salts as a purgative. Do not give oil.

Strychnine, nux vomica.—Emetics; give powdered charcoal freely or a few drops of tincture of iodine at a time. Strong boiled tea; artificial respiration; the greatest possible quietude for the patient.

Tobacco.—Emetic; strong tea or coffee; keep up body warmth; quietude; artificial respiration if necessary.

Health of Home and School.

LEAFLET NO. 32.

Issued by the State Board of Health of Maine.

The Menace of Rats.

Plague is the most terrible of the pestilences which have afflicted man. It slays from 60 per cent to 90 per cent of those whom it attacks. In the 14th century it swept away 25,000,000 of the people of Europe. Within the last few years it has destroyed several millions of the people of India. The disease is now widely spread over the world. Just now New Orleans is waging a costly war against plague.

Plague is primarily a disease of rats, and secondarily a disease of man. From infected rats it is transmitted to human beings through the agency of fleas. Therefore, the most important work of guarding against plague, or stamping it out after it appears in a place, is the destruction of rats.

That rats bring plague and some other very serious diseases to mankind is sufficient reason why every community and every household should wage a ceaseless warfare against those rodents which are so dangerous and destructive and so filthy in their habits.

How To Catch Rats.

Dr. W. C. Rucker, Passed Assistant Surgeon of the United States Public Health Service, who was the executive officer of the work which was carried on against plague in San Francisco, a few years ago, gives the following as the methods which were employed by the rat catchers who were in the employ of that service:

It is first to be remembered that the rat is a very wise animal and that the whole operation of trapping him is a test of wits between man and the rat.

Rats are to be found where there is an abundant food-supply for them. Therefore, the best places to catch rats are slaughter houses, meat markets, chicken houses, in and around garbage cans and places where garbage is usually placed. If the rat is deprived of this food-supply he will be attracted by the bait in the trap and thus enter it.

Cage Traps.

The large nineteen-inch French wire cage trap has given very good results where rats are plentiful. It should be made of stiff, heavy wire and well reinforced, as a large, strong rat will force his head between the wires of a weak trap and thus escape. Before setting, the lever on the trap should be tested to see that it works properly. The trap should be placed on a hard surface with the rear end a little higher than the entrance so that the trap will close promptly. When setting the trap in the open it should be fastened to a board on which about an inch of soft dirt has been spread. Place the trap where the rat usually goes for food or in a run-way and disturb the surroundings as little as possible. It is sometimes well to place the trap near where there is dripping water, as the rats come there to drink. If the trap is set in hay or straw or wood, it should be covered (with the exception of the entrance) with this material. When this is not possible it should be covered with a piece of sacking or placed in a dark corner or beneath the floors. When setting the traps in the sewer, a dry place should be chosen.

The rat is more or less of an epicure; therefore, the bait should be changed at frequent intervals. Also, he should be given food which he is

not in the habit of getting, for example: In a meat market, vegetables are the best bait, while in a location where vegetables are plentiful, fresh liver and fish heads or a little grain are best. The following may be suggested as good bait to be used: Fish, fish heads, raw meat, cheese, smoked fish, fresh liver, cooked corn beef, fried bacon, pine nuts, apples, carrots and corn. When trapping in chicken yards a small chick or duckling is remarkably good. When a large number of rats are caught in one trap, search for the female and leave her alive in the trap, as she may call in the young or the males. The bait should be fastened to the inner side of the trap with a piece of fine wire, so that the first rat in cannot force the bait underneath the pan and thus prevent the entrance of other rats. A few grains of barley should be scattered near the entrance of the trap and a small piece of cheese or meat fastened to the pan with a piece of wire. It is often well to touch the pan with a feather which has been dipped in oil of anise or oil of rhodium. Before leaving the trap, it should be smoked with a piece of burning newspaper to kill the smell of the human hands or rats which have been in it. Do not handle the trap after burning it out. When trapping in a neighborhood where rats are known to exist, the traps should not be moved for three or four days unless they have rats in them, as it is well for the rats to become accustomed to seeing them and thus careless about entering. It is not wise to kill rats where they are caught, as the squealing may frighten the other rats away.

Snap Traps.

Snap or spring traps are best for use in houses and stores, with the exception of fish and meat markets. Snap traps are best for use in runways, and on beams and shelves. It is sometimes well to disguise the trap by covering its floor with a little sawdust or dirt. They should be first tested to see that they work properly and that the staples are secure. New traps should be smoked or stained to render them an inconspicuous color.

The bait should consist of some firm material such as fried bacon or tough meat and should be tied on so that the rat will be obliged to pull on it, and thus spring the trap. The trap should be placed in a corner or close to the wall on a flat, hard surface so that the rat cannot spring it with his tail or by walking on it.

Barrel Traps.

In warehouses and granaries large numbers of rats may frequently be trapped by using a barrel or garbage can having a metal top which is carefully balanced. Large pieces of strong cheese are placed in the middle of the cover and a plank laid from the floor to the edge of the barrel. The rat runs up the plank onto the smooth metallic lid, which tips, and the rat is precipitated into the barrel.

In Fig. 1 is shown a snap trap of excellent design. The spring is released either by an upward nibble, or a slight downward pressure. Fig. 2 represents a trap which need not be baited. Set in the runways of rats, it is sprung by a very slight touch.

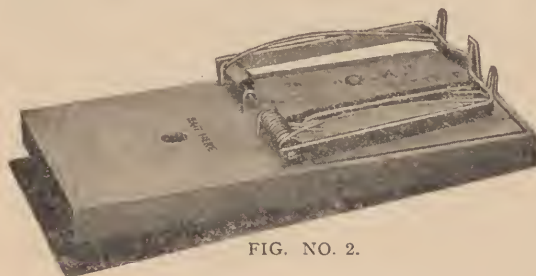


FIG. NO. 2.



FIG. NO. 1.

Health of Home and School.

LEAFLET NO. 33.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Fire Prevention.

We are told by a celebrated fire chief that fully one-half of the fires in the United States might be prevented if reasonably intelligent precautionary measures were observed. In the avoidance of destructive fires the proverbial ounce of prevention overshadows in value very much the pound of cure.

A Few Points on Building.

Have chimneys built with a view to safety even while they are burning out. The brick should be laid carefully in cement mortar instead of lime mortar. Having the flues lined with brick set on edge gives further assurance of safety, though it increases the cost of construction. Avoid the contact of woodwork with the brickwork of the chimney stacks. Fire stops on a level with each ceiling cost but little and are worth much as an item in slow burning construction.

Oils, Paints, Grease and Fats.

The cause or origin of some fires, remains a mystery. Oily rags and floor-cloths, even in the working department of the household, are a frequent source of fire by spontaneous combustion. It requires but a slight amount of heat to release from certain substances gases that will unite very readily with oxygen and produce flame. Animal and vegetable oils, such as linseed oil, used in most paints, cottonseed oil, machine oil, are household accessories particularly susceptible to any increase in temperature, and in combination with inflammable materials like cotton, will take fire of themselves. Keep oily rags and mops in closed metal receptacles.

Oils, paints, grease and fats should be stored outside the house. Under no circumstances should they be kept in the basement or cellar or close to the stairs. Burn up ham bags, butter or lard paper, greasy cloths from dishes, sewing machines, lamps or fresh paint. Do not put them with any other rubbish. The furnace is the only safe place.

Kerosene, Benzine, Gasoline and Naphtha.

If you must use benzine or gasoline, take it out of doors. Other cleansing fluids are on the market, approved as absolutely non-inflammable. Keep your benzine can labeled. Do not mistake it for kerosene. The vapor given off by benzine, naphtha, and gasoline, travels everywhere and sinks instead of rising. It seeks light or fire of itself in rooms distant from the one in which it is used. A draft is necessary to get rid of this vapor. The open window is not enough.

It seems almost an insult to an intelligent reader to give rules about kerosene lamps. Nevertheless let us comment upon the value of keeping them clean, well wiped off, and filled, so that the vapor has no place to form. When filling a lamp that has just been burning, never go near other lights or fire, lest the already overheated vapor should travel and explode. Buy oil with a high flash test (120° Fahrenheit) if you can get it. And never, never fill a lamp while it is lighted. Many lives have been lost by kindling fires with kerosene.

The Danger from Ashes.

Many a fire has been due to the senseless and careless habit of putting ashes into barrels or other wooden receptacles. Ashes and cinders should be kept separate from everything else. Metal cans with covers are the only proper ash receivers. Watch the ashpile, for it may take fire of itself.

Matches, Cigar Stubs, Etc.

Matches should be kept strictly in safe places and in receptacles assigned to them. Scattered around carelessly there are various ways in which fires may start from them. Lighted match sticks, cigar or cigarette stubs, and pipe ashes, carelessly thrown where there is inflammable material, cause frequent fires.

The Fire Drill.

In every school building, particularly if of more than one story, the pupils should have frequent practice in the fire drill. It would be well worth while, in every household also, to have a bit of a fire drill once in a while, or at least to have a few moments now and then spent in a careful consideration of what to do and how to do it if a fire should start in the home.

A few fire pails for the application of water to the fire at its very beginning should be kept in their places which should be known to every member of the household. It is a cheap kind of fire insurance to keep on hand a few fire grenades or hand extinguishers.

If the sleeping rooms are above the first floor, there should be kept within those rooms a rope which one might use in lowering other persons to the ground or down which he might make his own escape. (See Leaflet No. 34.)

If persons are overcome by smoke or gases, artificial respiration should be applied promptly. (See Leaflet No. 13.)

A predetermination of what to do will be an aid in keeping a level head in an emergency, and a level head is needed when a fire occurs in the home, school, hotel, or factory.

Safeguards in Schools.

The law of Maine relating to fire escapes should be known to all of us and should be heeded by all persons who are responsible for safeguarding the schools. That law provides that escapes from school-rooms shall be kept unobstructed, in good repair, and ready for use. Stairs on the outside of the building shall have suitable railed landings at each story above the first, accessible at each story from doors or windows and such stairways, doors or windows shall be kept clean of snow, ice and other obstructions. In school buildings of more than one story there shall be at least two separate means of egress by inside or outside stairway, and each story above the first shall be supplied with means of extinguishing fire consisting of pails of water or other portable apparatus, or of a hose attached to a suitable water supply and such appliance shall be kept at all times ready for use and in good condition.

The rules for fire protection of the schools of New York City provide:

That all classroom doors shall open into the rooms, thus to enable the teacher at the door the better to control the pupils. That all exit or outside doors shall open outward.

Health of Home and School.

LEAFLET NO. 36.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Bad Shoes and Inefficiency.

Many horses are lamed and of little value on account of unintelligent shoeing, and it is equally true that many men and women suffer much and are put upon a lower plane of efficiency because they persist in the use of shoes which change the shape of their feet from the natural to unshapely or crippling forms. The human foot may be weakened, lamed and rendered less serviceable by wrong habits in standing and walking as well as by faulty shoes.

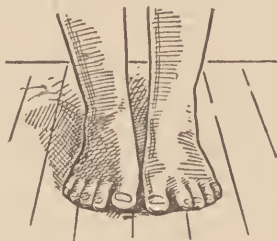


FIG. 1.

The Perfect Foot.

With very few exceptions every child has feet shaped like those in Fig. 1 unless they have been spoiled by ill-treatment. The child of to-day comes into the world with a foot shaped just like that of the baby of a thousand years ago, and the foot of the grown up person of to-day should be just as sharply as was the human foot shown in the statuary of the classic ages of the sculptor's art, if it has not been spoiled by modern shoes. The foot of the adult should have a shape like that shown in Fig. 2 and Fig. 3.



FIG. 2.



FIG. 3.



FIG. 4.

The most common deviation of the foot from its natural shape is that in which the great toe has, from its normal line pointing straight ahead, been turned outward so as to press upon the other toes. That is usually the first bad result of wearing ill-fitting shoes, and it is very often the beginning of a vicious circle of foot troubles which include a narrowing of the fore part of the foot and a weakening of its locomotive power; a tendency to assume a faulty gait in walking and faulty postures in standing; and these in turn weaken the arch of the foot and tend to flat-foot; and in turn

again accentuate or fix the habit of the awkward and unnatural gait. These are some, but not all, of the ills which come from having the feet misshapen by faulty shoes.

How to Walk.

In the gait which is naturally taken by the person whose feet are unspoiled and who is properly shod, each foot as it does its part in walking, acts as follows:

The heel as the foot is swung forward is the part which first touches the ground. It touches the ground lightly for the instant until the weight of the body is transferred to the ball of the foot and the outer, lower edge of the sole. The third and final stage in the action of the foot is a propulsive movement given by the toes and more forcibly by the great toe as they leave the ground.

The imprint of the unclad normal foot upon a level surface shows that the weight of the body, whether in standing or walking, is borne by the heel, the ball of the foot, and the outer and lower portion of the arch of the foot. In the deformity of the foot which is caused by shoes which are narrow at the toe or curved outward at the inner and front part of the shoe, there is a tendency to toe out in walking and this throws the weight more than is natural upon the inner portion of the arch of the foot, the part which is not so well able to bear the strain.

But, if the foot is natural, the great toe, will and should point straight forward as shown in Fig. 2, and the person will not have the awkward toeing-out gait shown in Fig. 4. The straight forward direction of the toe in walking is nowadays more and more insisted upon as correct and good form. The toeing-out habit and the toeing-out track indicates a foot which has been distorted or weakened.

Health of Home and School.

LEAFLET NO. 37.

ISSUED BY THE STATE BOARD OF HEALTH OF MAINE.

Hygiene of the Foot.

The changes in the feet caused by wearing ill-fitting shoes not only cause much inconvenience and suffering, but the persons who are the victims of bad shoes may be forced by pain and incapacity to give up positions which they would like to occupy. Many young men have been rejected as recruits to our military service or as applicants of positions as patrolmen or firemen in our cities on account of weak feet or flat-footedness. Many nurses have been discharged from hospital service on account of the breaking down of feet which have worn bad shoes.

But this is not all. Symptoms due to these foot troubles are not always referred to the feet. It may seem strange, but it is true that the pain or discomfort is often felt in the calf, the knee, thigh, or hip, even when the diseased condition is in the foot alone. Persons who have been crippled by what they have termed rheumatism, sciatica, and neuralgia, in regions far above the foot have been cured by relieving the flattened arch or other foot troubles.

The Causes of Weak Foot.

The following are the principal causes of flat-foot: (1) Ill-fitting shoes throw the toes out of line and interfere with the normal action of the muscles in the proper development of the foot. (2) High heeled shoes if long worn, sometimes cause serious trouble by permanently shortening the heel ligaments. (3) Deformities of the toes due to their being thrown out of line by badly shaped shoes are often the beginning of more serious foot symptoms, for instance, flattening of the arch and a splay-footed gait. (4) Corns, bunions, and ingrowing toenails cause a person to stand or walk with the feet in unnatural positions; causing strain which leads to deformity. (5) Lack of proper exercise of the feet untrammelled by faulty shoes.

Correction of Foot Troubles.

The troubles of the feet which have been mentioned in this leaflet and in Leaflet No. 36 may, if far advanced, need the services of the surgeon or the advice of some person more of an adept than is the ordinary shoe dealer in giving temporary mechanical help to those parts of the foot which need it. But troubles which have for some time been present are often greatly improved or cured by intelligently applied efforts at correction.

Shoes.

The main factor in causing unsound feet is the ill-fitting shoe. The first corrective measure in most cases is the fitting of the feet with shoes which shall not increase the trouble, and which may permit the feet to return to their normal shape so far as that is possible. In Fig. 1, the dotted outline shows the sole of a shoe like many which are on the market. It is not extremely narrow, but it is rounded off at (A) so that the constant wearer of such a shoe will have the great toe thrown out of line and will be likely to suffer the attendant evils. While a shoe like this exerts harmful pressure at (A), it would conform more nearly to the shape of the normal foot if it were rounded off more at the point (B).



FIG. 1.

In Fig. 1, the continuous line shows the outline which is much more nearly like that which might be called the hygienic shoe, that which is required by the foot which is somewhere nearly perfect in outline. The inner line of heel and toe are nearly straight. The other points in the construction of the sensible and hygienic shoe are: The heel shall be low and broad. The toe shall not be turned up too much as that interferes with the propulsive action of the toe as it leaves the ground, and also tends to weaken the arch of the foot. That portion of the sole between the heel and the ball of the foot should not have too much of a thrust upward into the sole of the foot so as to press too hard upon the muscles in this region. Shoes are less likely to harm the foot if they are made without caps. Fig. 2 shows the shape of the new style of shoe for use in the U. S. Military Service.

Exercises.

Muscles extending across the arch of the foot from the lower surface of the heel to the base of the toes have more to do with maintaining a proper shape of the arch than the ligaments have. The healthy, normal shape of the foot depends largely upon the strengthening of these and other muscles of the foot and ankle. The best way of doing that and of remedying weak feet and flat feet is by exercising those muscles, carefully graduating the exercises at first.

Walking is one of the best exercises for this purpose, and particularly walking up and down stairs.

Another excellent exercise is rising high on the toes, then slowly lowering the body until the heel touches the ground. Continue repeating this movement for five or six minutes, or until these muscles begin to feel tired. Repeat this three or four times a day.



FIG. 2.

(i) There is no diagnostic laboratory maintained in the town. It is necessary to send all cultures and pathological specimens to Augusta for diagnosis. The meat inspection has been commented on elsewhere in this report.

(j) The chapter on the organization of the health department dealt with the discussion of the district nursing. There are no free clinics in the town and no social service work.

(k) By far the largest charitable organization in the town is the town farm. This is a home for the aged and unfortunate of the town. It is maintained by an appropriation which is voted at each annual town meeting. The appropriation for the year just past was \$6,500.00. Most of this money goes to purchase food stuffs and clothing. There are various women's clubs in the town that raise money by various ways to aid the support of families at the time of sickness. The town further raised the sum of \$1,500.00 for the purpose of mother's aid for the year just past. The Woman's Aid Society expended \$1,375.23 for the year just past. This makes a total of \$9,375.23 that was raised for benevolent purposes and expended during the last year. There are other clubs that have expended money in aiding at times of sickness not mentioned above such as the Sunshine Society, the Red Cross, various women's clubs connected with the churches, and others.

(l) There are no local laws dealing with food and drug administration.

GENERAL SUMMARY

SUMMARY.

After carefully considering the subject matter contained in this report, it will, I think, be seen that the public health aspects of Scowhegan are still in their infancy. In some respects the work carried on is of the highest order while in many others that essential part of successful public health work, attention to detail, is sadly lacking. By and large the work executed by the various authorities is done with the best interests of the community at heart, and failure is seen where success is ~~desired~~, in a good measure because of the lack of knowledge on the part of the different persons in charge of the various departments. Custom and politics enter into the field in a certain number of cases. In short there is great need for a general reorganization of the way the work is carried on. The criticism of the conditions found will be discussed in the following pages, but it seems fitting here to say that one of the first essentials in making such a reorganization possible is to educate the personnel of the community in such a way that they will be interested and will demand certain reforms that will put the town on a safer and sainer regime. It is an easy task to advise other towns, to help the sanitary conditions of a foreign country, and what not, but it is always a bitter tonic to apply principles to ones self, for in so doing it is first necessary to admit that those existing are wrong.

The health department was found to be loosely and poorly organized. It was found to be working under many handicaps, and the best solution out of it all is to find a health officer, who is well trained and interested. The reasons for the present poor health protection are varied. First, because the community is not awake to the necessity and possibility of protecting the public health along modern lines ; second, because the appropriation for public health work is entirely inadequate ; third, because the personnel is poorly trained ; and fourth, because the initiative, driving

force and other desirable human elements are not present.

The present health officer confines his efforts to the placarding of a house where a case of a communicable disease has been reported to exist, and having the premises fumigated when the disease has terminated. He also investigates nuisances which have been brought to his attention, and performs similar functions which have but little effect upon the general health of the public. The control of the water supply and other sources of drinking water is neglected. No attempt is made to make privies fly-tight and sanitary, and to cause the removal of those that are no longer necessary. The control of the milk supply is neglected, inspection of dairies occurs very infrequently, and laboratory analyses are almost never performed. Restaurants and food stores are almost never inspected, and there is no supervision of the sanitation of the schools and factories. There are no contagious hospitals, and little is done to control communicable diseases, as a result of this, epidemics sweep through the community leaving only the more fortunate individuals unscathed. No regular or effective use is made of vaccines and sera, and public health education is almost unknown. The vital statistics are not accurate and are incomplete. Anti-tuberculosis and verereal disease activities are conducted in an unsatisfactory manner. The sewage system is a direct blotch to the community, as it is a constant factor in permitting a spread of disease through the water supply. The disposal of garbage, refuse and ashes is unsanitary. This in short gives a description of the conditions found and the criticisms of these conditions, as they have appeared in a more lengthy discussion throughout the report.

The following recommendations seem to be indicated :

(1) The health department should be reorganized along the lines advocated in the report.

(2) The appropriation should be increased to the proposed amount,

in order to permit the reorganized department to carry on its activities in a modern way.

(3) The proposed health department should take over all public health work now done by both public and private agencies.

(4) Reliable engineers should be employed to study the need of more thorough purification ^{OF THE DRINKING WATER} than can be obtained through the present methods employed, and if possible a new system introduced to replace that now in use.

(5) The entire community should be completely sewered as soon as possible, and the sewers now dumping into the river above the dam should be abolished and conducted into the river below the dam. All sewers dumping into brooks should be dealt with as recommended in the report.

(6) A municipal incinerator should be provided and a system of yearly collection be established as recommended in the report.

(7) The office of registrar of vital statistics now existing should be abolished and the local health officer should receive and file all vital statistics for the town.

(8) The local health officer, to be appointed under the new regime, should have under his control the licensing of all dairies, which should be frequently inspected and licenses renewed yearly. There should be a laboratory inspection of the milk supply established.

(9) The schools should be inspected as recommended in this report.

(10) There should be a system of public health education put into effect that will appeal to the population at large and do away with that phrase that " what was good enough for father is good enough for me ".



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